

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learned from them. The information below has been provided in good faith by members and should be reviewed individually by recipients, who will determine its relevance to their own operations.

The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat ([imca@imca-int.com](mailto:imca@imca-int.com)) to your internal distribution list for safety alerts and/or manually submitting information on specific incidents you consider may be relevant. All information will be anonymised or sanitised, as appropriate.

A number of other organisations issue safety flashes and similar documents which may be of interest to IMCA members. Where these are particularly relevant, these may be summarised or highlighted here. Links to known relevant websites are provided at [www.imca-int.com/links](http://www.imca-int.com/links). Additional links should be submitted to [webmaster@imca-int.com](mailto:webmaster@imca-int.com)

## 1 DP Run-Off Incident – Class 2 DP Vessel

IMCA has received a report of a DP run-off caused by operational changes to the DP system which led to the loss of all reference systems. The DP class 2 vessel was alongside a platform and suffered a loss of reference systems, requiring the vessel to be taken into manual control. The vessel was recovered to a safe location without mishap. No damage was incurred to the platform or the vessel.

An initiating cause was the deterioration of the performance of one of the position reference systems. The DP operator on watch selected alternative reference systems to maintain DP positional integrity, in accordance with normal accepted procedures, whilst the problems with the deteriorating reference system were addressed.

The configuration of the vessel linked the faulty reference system with a number of other reference systems, with the result that the loss of one system caused the loss of others, including a vertical reference system (VRS).

The voting algorithm in the DP system was based on three VRS units, rather than two VRS units, as actually installed onboard the vessel. This caused the second VRS to be rejected by the DP system, with the secondary effect that all other reference systems were also rejected.

In addition, sensor offsets to the centre of gravity had been omitted, which caused erroneous calculations of movement, and errors in wiring compensating the pitch had occurred either at commissioning of the vessel or during maintenance of the DP system. This caused pitch motions to be amplified rather than compensated. There was insufficient documentation of these wiring changes onboard the vessel.

It should be noted that the errors could normally have been picked up during commissioning or annual FMEA DP trials, provided that the FMEA trial was not carried out in calm water, where the corrections for the vessel's movements would have been too small to be distinguished. However, since FMEA trials test function and not configuration, the potential for error could remain undetected in the system.

Further, it should be noted that records of all system configurations, offsets, drawings, changes etc should be held onboard the vessel, and kept up to date.

The following actions were proposed:

- i) DP reference inputs should be correctly selected to mitigate loss;
- ii) DP system configuration should be checked, as every vessel is different;
- iii) All DP issues should be documented, together with the close-out issues, to aid the DP maintenance engineers as required;
- iv) Configuration of individual reference systems should be modified such that VRS units cannot be inadvertently affected through failure of those systems.

## 2 Near-Miss: Divers Nearly Hit by Weight on Taut Wire

IMCA has received a report of a near-miss incident wherein a taut wire weight narrowly missed two divers before coming to rest next to a subsea structure. There was no injury to the divers nor damage to the structure.

In undertaking its work, the DP vessel had moved, resulting in the taut wire running above the divers and the subsea structure. The dive was being run by a trainee diving supervisor under the direction of an experienced diving supervisor. The DP operator (DPO) was a deck officer experienced in DP operations. Communications were through an open communication system between the bridge and dive control.

The divers were in the process of recovering tools to clear the worksite prior to relocation of the vessel. Bridge and dive control had agreed that the vessel would need to move to re-plumb the taut wire prior to recovery. Dive control stated that a move of approximately 15 metres was required to re-plumb the taut wire. The vessel moved 5m, after which the DPO announced that he was “going to lift port taut wire”, believing that the taut wire weight could be recovered clear of the divers and the subsea structure. At the end of this announcement from the bridge the trainee diving supervisor said “OK” on the open communications channel, but in response to another conversation. The DPO on the bridge interpreted this as an okay to lift the taut wire. The experienced diving supervisor immediately called an ‘all stop’. However, the lift had already commenced and although the bridge stopped the lift there had been nine seconds of lifting, which was sufficient for the taut wire weight to swing towards the subsea structure and the divers.

The investigation identified the following two main causal factors:

- ◆ There was a failure in communication protocol between the bridge and the dive control;
- ◆ Although the DP operator was experienced, he was experienced in DP operations on lay vessels rather than on dive support vessel.

The following remedial actions were recommended:

- ◆ Reinforcement of correct “repeat back” protocols to be carried out. “OK” is not a sufficient response to a critical operational question. The correct response should include confirmation that the “OK” is in relation to the question asked, e.g. “OK to lift the taut wire” or “OK to move vessel”;
- ◆ Review of the familiarisation process to identify gaps in knowledge when personnel are relocated from one area of operations to another;

IMCA M 175 – Guidance on Operational Communications, Part I – Bridge & Dive Control – contains useful references to publications regarding correct radio procedure.