

## IMCA Safety Flash 12/08

July 2008

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learnt 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 Ballast Tank Hydrogen

A member has reported a serious confined space incident in which a crew member was injured. The incident occurred during quarterly planned maintenance of the leakage detection system in the base of one of the legs of a semi-submersible accommodation unit alongside fixed production platform.

A crew member lifted the manhole cover to gain access to the tank to undertake planned maintenance. The crew member was working next to his supervisor who began to lower gas sampling equipment into the tank as part of normal pre-entry checks. Within a minute of the manhole cover being lifted, the gas sampling equipment (which was 3m down into the 6m height of the tank) gave an alarm, and the crew member lost consciousness.

Subsequent gas sampling during the investigation was undertaken and recorded unexpectedly high levels of hydrogen. The presence of hydrogen can be explained by the electrolytic reaction between the sacrificial anodes and the steel within the ballast tank below the tank being worked upon.

The crew member who lost consciousness recovered fully with no residual ill health effects.

The company involved made the following recommendations:

- ◆ Vent ballast tanks regularly in order to prevent hydrogen build-up;
- ◆ Ensure appropriate steps are taken to purge gases from ballast tanks prior to tank opening;
- ◆ Using appropriate equipment, conduct tests for the presence of hydrogen before tank entry;
- ◆ Remain mindful of the potential for build-up of hydrogen in ballast tanks where sacrificial anodes are used;
- ◆ Review gas sampling procedure.

### 2 Incorrectly Colour Coded Oxygen Cylinders

A member has reported that it has received a small number of 'W' size oxygen cylinders which were incorrectly labelled as nitrogen (oxygen free).

Members are reminded of the guidance set out in IMCA D 043 – *Marking and colour coding of gas cylinders, quads and banks for diving applications* – and particularly of section 7, 'Gas sampling':

*"Sampling of all gases must be carried out prior to the commencement of, and during, diving operations.*

*Gas cylinders and quads as received from the supplier should have a label attached and a purity certificate stating the composition of the gas they contain. However, it is stressed that analysis of gas as received from a supplier to a diving installation or site is the responsibility of a nominated and competent individual and that the ultimate authority for establishing the exact contents of any gas cylinder, bank or unit before use rests with the relevant supervisor."*

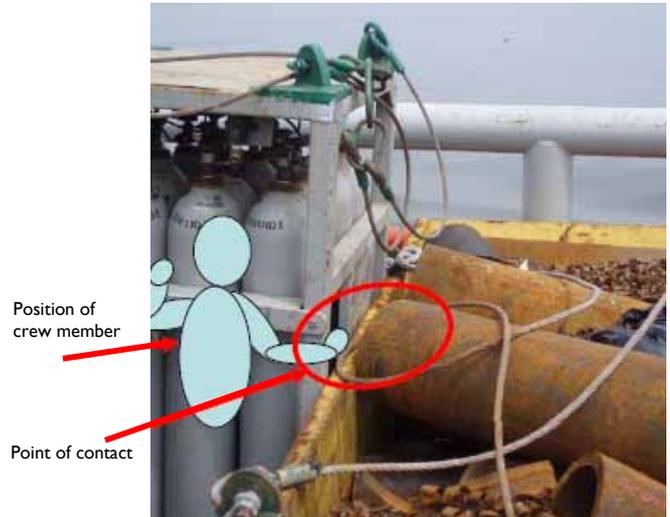
### 3 Hand Injury

A member has reported an incident in which a crew member suffered a serious hand injury during lifting operations. In the course of at-sea loading and offloading of containerised units from the company's larger vessel to another smaller third-party vessel, the crane operator had landed a gas cylinder rack on the deck of the other vessel when a crew member from the other vessel requested the banksman to lift the load to allow him to straighten up the rack.

Owing to the sea swell, when the gas cylinder rack was lifted, it moved suddenly towards an adjacent waste skip and the crew member trapped his right hand between the gas rack and the waste skip causing a serious injury to the hand. The crew member received first aid treatment and was later medevaced to shore for surgical treatment.



*Deck layout on third-party vessel at time of incident*



*Position of crew member at time of incident*

Further investigation revealed the following basic causes:

- ◆ The crew member was not warned by his colleagues that he was in an unsafe situation;
- ◆ The crew member was in an improper or unsafe position for the task and did not follow established lifting procedures;
- ◆ There was a lack of experience in cargo operations.

The following were considered contributory factors:

- ◆ Poor sea conditions (sea state approximately 2m);
- ◆ Congested deck owing to small size of vessel on which incident occurred.

The company recommended the following actions:

- ◆ Crews on third-party supply vessels to be provided with appropriate instruction on proper lifting and handling working practice;
- ◆ Ensure all personnel are aware that they can stop the job when unsafe acts or conditions are observed on third-party vessels;
- ◆ Ensure proper selection of type/size of vessel for cargo operations;
- ◆ Ensure better planning onshore and better organisation of deck space to minimise pinch points;
- ◆ Ensure crew are fully aware of the danger of pinch points;
- ◆ Ensure good communication between contractor vessel and third-party attending vessels during at-sea loading and unloading operations.