IMCA Safety Flash 09/02

September 2002

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) 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 Additional links should be submitted to webmaster@imca-int.com

1 Failure of Bailout Regulator

During routine maintenance of bail-out bottles on a members' dive support vessel (DSV), a serious flaw was discovered on a first stage bail-out regulator. When the relief valve was dismantled, it was found that two mild steel washers had been fitted to the valve to effectively increase the spring tension to allow for a 20 bar pressure release. Both washers were badly corroded and prevented operation of the relief valve.

In a situation where a regulator fails because the relief valve is inoperable, there is potential for the low pressure (LP) hose to be subjected to full bail-out pressure of 300 bar. New-type LP hoses have a working pressure in excess of 60 bar but, because of safety factors, will have a considerably higher burst pressure. Thus there is potential to have full bailout pressure at the helmet emergency valve without the diver's knowledge.

When the history of the first stage regulator's relief valve was investigated, the company involved could not trace when they had been delivered. The manufacturer had no knowledge of such washers ever being fitted to its relief valves, as the normal relief valve setting from the manufacturer was 15 bar. It is understood that that supplier manufactures special relief valve caps to allow for a 20 bar pressure relief, but this was based on different spring settings. The company's maintenance procedures would prohibit such materials being inserted in the regulator valves and documentary evidence of when this occurred could not be found.

The company involved is concerned that this may not be an isolated case of incorrect supply or maintenance and has instructed all of its diving supervisors to check all first stage regulators at the earliest opportunity to confirm that the relief valves have the correct components fitted, in accordance with suppliers' specifications. This check was to include both units in use and stored standby units.

2 Loss of a Vessel

2.1 Introduction

We have received the following information regarding loss of a survey vessel. This loss followed the ingress of water into the ship's engine room. There were no injuries amongst the 29 crew members, who were safely carried to shore.

1.22.2 Circumstances

The company involved was contracted to conduct a seabed survey for a proposed pipeline and the vessel involved was tasked with carrying out the work scope.

On arrival at location the survey operations commenced by deployment of an acoustic transceiver pole through the vessel's hull via a gland, support stool and gate valve. The system is located in the ship's engine room.

The transceiver pole weighing approximately 500 kg and 5m in length was lowered by a chain block assembly. At some point during the lowering and for reasons unknown, the pole fell freely some four to five metres. The retaining collar and supporting steelwork were destroyed by the inertial energy of the pole thus the pole was lost to sea.

Thereafter there was ingress of water into the engine room from the open gland. The control wheel to the gate valve, which was situated at the base of the support stool was almost immediately submerged preventing access by staff to close it.

The watertight doors to the port and starboard shaft tunnels were closed and the engine room evacuated. Distress calls were initiated, the company's office advised and a nearby support vessel closed in to render assistance and to receive all non-essential personnel off the vessel. Assistance was also obtained from a nearby coalition force vessel with helicopter support. Once it was quickly established there was no risk to personnel efforts were focussed on saving the ship.

Regrettably only one of three pumps landed onboard the vessel was operable. Given this situation all remaining personnel were removed, thereafter the vessel remained afloat a further three hours, sinking in 3,000 metres of water.

Both the Master and his team, supported by the various vessels, agencies and the company emergency response team, managed the whole nine hour incident in a controlled manner. The entire crew of 29 were transferred by vessel's rescue craft without injuries or incident of any kind.

1.32.3 Follow Up

The company involved, together with regulatory agencies, is continuing to investigate the incident. These investigations have, and will continue to be, focused on the cause and contingency systems.

However, given the recent vessel losses and incidents within the both the deep seismic and high-resolution seismic industry the company involved believes the view that 'it cannot happen to us' must be challenged. The company involved has advised others to review their processes and the effects of their actions. It is with this focus in mind and the best interests of the industry that the company involved has indicated that it will make available the regulatory findings and make recommendations to the classification society which, if implemented, should avoid such a repetition to other vessels.