SAFETY ALERT

ADC Safety Alert 3/08: 27th September 2008

Very Near Miss Incident Involving a Divers Umbilical

The Introduction:

The diving contractor was involved in a salvage operation that was being carried out in UK territorial waters. The diving operation formed part of a larger recovery activity requiring the use of a specialist, Voith propelled salvage vessel fitted with heavy lift marine crane. The surface support team, comprising specialist salvage crew and vessel operators, predominantly of European origin, were working alongside the diving contractor on the salvage vessel.

The Near Miss Incident:

At the start of the salvage operation a heavy down line / working line was required to be positioned to replace the thin temporary line used to mark the wreck, this would then enable a secure line to be secured to a fixed point on the wreck which would be used for the duration of the works. The dive was planned to be carried out during a slack water period and to facilitate this final preparations were completed on deck.

The diving supervisor approached the Master of the Vessel on the bridge to seek permission to commence diving when the tide turned. A Permit to Dive form used by the contractor was presented to the Master for confirmation that all machinery was isolated and that diving was cleared to commence. The Master checked and isolated the controls on the bridge and signed the permit returning it to the diving supervisor.

As soon as the tidal conditions were considered to be suitable the diver entered the water. Soon after commencing his descent along a temporary down line the diver informed the supervisor that he needed slack on his umbilical. Slack was provided, but the diver continued to struggle to overcome the pulling on the umbilical and requested further slack. Over the communications the supervisor proposed terminating the dive to await a change in the tidal condition, believing the tidal flow to be the primary cause of the problem, whilst attempting to respond the diver reported he was in difficulty and soon after communications were lost.

The Outcome:

Unbeknown to the Supervisor or the diver immediately prior to the event, the Voith propulsion unit adjacent to the diver, despite being isolated on the bridge – as confirmed by the signed Dive Permit - was in fact still operating, and the divers umbilical had been progressively drawn into the thrusters and become entangled. Once the supervisor was aware what was occurring he contacted the bridge and the emergency shut down of the engines was completed.

In this instance the very alert diver managed to grab hold of the umbilical leading to surface, switched to bail out supply and cut his own umbilical before making an ascent to

the surface where he was rendered assistance by the support team and recovered safely to the deck.

Observation:

This was a very near miss incident that could have had a very different outcome had it not been for the experience of the diver or the actions taken by the supervisor.

The diving contractor had correctly attempted to implement suitable controls to ensure that diving was safe to proceed by using a well developed Permit to Dive system. Despite these efforts, there appeared to be a significant breakdown in the level of control applied to the operating machinery on the salvage vessel.

During the post incident investigation it was confirmed that whilst the action on the bridge isolated the steering, a separate verbal communication between the bridge and the engine room was required to actually shut down the propulsion system.

Lessons:

The vessel operator has a clear responsibility to ensure that, prior to signing a Permit confirming that the shutdown of machinery has occurred, has actually been achieved.

Diving supervisors whilst able to ask the appropriate questions, may not be technically able to make physical checks, and as a result are reliant on the competence and vigilance of the more experienced vessel crew and most importantly the Master of Chief Engineer of the Vessel.

Whenever possible, the isolations of key operating machinery should result in a physical lock and tag out procedure the master control for which should be held by the supervisor whilst diving is underway.

This is not the first time an incident of this type has occurred. Until such times as the Association, in consultation with other specialist groups, is able to develop and circulate clear recommendations and if appropriate, guidance for Diving Contractors and Ship Operators to adopted in an effort to mitigate or eliminate the potential machinery isolations , a high level of checking should be put in place when Permit to Dive Systems are being used on vessels. In addition a high level of vigilance should be adopted by those tending the divers umbilical.

Roger O'Kane
Secretary.

If you have an incident or accident and have learnt lessons as a result, please advise the ADC Secretary so that the information can be compiled to remove specific reference to persons or organisation and distributed to all other members to mitigate the potential for similar incidents to occur elsewhere.