EVACUATION OF DIVERS UNDER PRESSURE

Commander SA Warner - Chief Inspector of Diving, Department of Energy, London

For several years discussions have centred around the action that should be taken to safeguard divers who are in saturation or in long diving schedules when an evacuation situation arises.

Great care has been taken when studying past discussions, that the view presented was not distorted by emotion. Nobody will deny that the thought of divers being locked in a chamber and unable to assist themselves in the event of a blow-out, fire, collision, etc. presents a horrifying picture. However, it is estimated that considerably less than 200 men at peak period, are at possible risk in the whole of the Northern European area (probably less than 100 in the UK sector). In many cases these men are on board a ship which has the mobility to get itself out of trouble under some sets of circumstances.

There is no one system which will cater for every eventuality and considerable care must be taken to ensure that badly thought out and quickly introduced “good ideas” do not put men at more risk by introducing additional hazards.

In order to meet the criteria of “providing every reasonable practicable safety measure” the following conclusions from studies to date have been drawn up.

History

Throughout the entire world history of the offshore industry, on only one occasion was it considered necessary to evacuate divers under pressure. In actual fact, even in this solitary case, the divers would have been safer had they remained on board. In many other cases studied, in which divers were not involved, premature evacuation resulted in unnecessary casualties.

Prevention

It cannot be stated too often that the response to an emergency situation will never be as effective as prevention of the situation. There are undoubtedly certain times in offshore operations when the risk may be higher. There are also certain times when the risk of collision to a vessel is higher. Already 500 metre safety zones are established around installations to provide additional safety.

The UKOOA Diving Committee in discussion with the AODC have accepted an invitation from the Department of Energy to produce guidance on the subject of when, if possible, divers should not be under pressure.

It goes without saying that the highest standard of collision prevention, fire prevention, damage control and fire fighting systems are essential.

Airborne Transfer

With the introduction of the airborne system for diver casualty transfer there is an important “spin-off” safety factor, in that, the system can be adapted for a total evacuation transfer under pressure of up to eight men. A helicopter transfer to the nearest compatible chamber is a safe and comparatively simple exercise.

Crane Transfer

With the introduction of safety vessels in each small area of the North Sea facilities for crane transfer of a compression chamber (part of a compression chamber complex)

should be made. The safety vessel should be capable of providing the essential lift and the life support services for the chamber once it has been transferred.

Pressure Chamber committed to the Sea (Hyperbaric Lifeboat)

It has been argued that every person in a ship or installation should have the facility of a seat in a lifeboat in the event of an emergency, and it has also been argued that passengers in aircraft are not issued with parachutes. However, a diver under pressure requires very much more than basic survival equipment, and the cost of producing a safe floating chamber with all the necessary life support systems is extremely high.

It is possible and indeed probable, that the deployment of a “hyperbaric lifeboat” would subject the divers to an even increased risk.

Premature Evacuation

With the airborne transfer or the crane transfer system a premature evacuation of diving personnel to an adjacent rig, ship or even to shore would not put the divers at increased risk. However, the premature deployment of a hyperbaric lifeboat could be dangerous.

Early evacuation by air or crane transfer is to be encouraged, but early evacuation by hyperbaric lifeboat could introduce greater danger. However, evacuation by hyperbaric lifeboat has to be considered and acted on very early in an emergency situation which could lead to the chamber being committed to the sea unnecessarily.

Conclusion

With the state of the art today it is considered that the application of prevention: backed up by a “fly-away” capability and a “lift-off” capability fills the requirement of providing “every reasonable practicable precaution”. The recommendations of the UKODA Committee on the applications of preventative techniques will be circulated as soon as they are available.

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PROJECT SEAFARER RATED SAFE

Since its conception, Project Seafarer, the huge underground antenna grid system proposed by the US Navy for communicating with submarines, has been controversial. President Carter considers Seafarer to be essential to national security. Other persons fear that the extremely low-frequency radio waves to be used could cause biological damage to people (specifically, increased serum triglyceride levels), orientative and navigational problems for birds, and behaviourable difficulties for fishes.

A National Academy of Sciences (NAS) committee has now evaluated preliminary studies of potential effects and has concluded that it is “very unlikely” that people living near the Seafarer system, if it is constructed, would be adversely affected by it. The committee did recommend, however, long-term studies of certain biological-ecological aspects to obtain more definitive information.

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