

DIVING SAFETY MEMOS -
UK Department of Energy

Through the courtesy of Commander SA Warner, Senior Inspector of Diving for the Petroleum Production Directorate, copies of this service to the diving profession have been made available. They cover the problems that have been noted to occur in relation to Diving Bells (SDCs), masks, both Scuba and hose supply diving, HPO and electrical risks and give a suggested basic medical kit for both SDC and DDC use. They even comment on the fact that putting a DDC on the deck may alter the stability of the diving boat. The comment concerning the need for an efficient hoist in the bell is noted especially as in a recent Australian case the victim could only be partially brought into the SDC, this preventing closure of the door, limiting the decompression procedure, delaying raising of the victim and interfering with resuscitative procedures. The memos are intentionally brief, being intended to alert diving contractors and divers to matters requiring more attention. They are a valuable service and greatly to be commended. The following is a brief resume of points made:

Diving Bells should only be operated from a suitably stable platform, having regard to the sea and weather record of the area. The resistant drag experienced when starting to raise the bell and its weights from the sea floor can create considerable problems. NO absolutely safe design for underslung ballast which would be safe in all types of sea bed conditions has yet been designed. When using underslung ballast technique the bottom door of the bell should always be shut before the weights are broken from the sea bed. Lifting harness should give a pelvic lift, NOT shoulder or chest (Memo 2 3 8 14).

Scuba Except in conditions where the use of surface supply diving equipment makes the divers task impossible or more hazardous, the use of Scuba is not recommended (at oil rigs). In two recent fatalities the first stage reducer provided air to both the demand valve and the suit inflation connection, a matter being investigated for its significance (Memos 9 11).

Hose-supply problems include the fouling and rupture of the diver's umbilical. In one case the diver, who was aware of the fouling, had removed his mask at the surface but was then pulled back into the sea from the diving basket by the hose. There is a warning that design inadequacy of the system may allow the "bail out" bottle to vent if the supply hose is ruptured. Similarly, the free flowing air may so reduce available pressure that the stand-by diver cannot obtain an adequate supply. Both the individual diver's gas reserve and the emergency diver supply MUST be separate from the main gas supply of the diver (Memos 10 14).

Masks have been noted to have defective fittings on occasion (Memo 6).

Cathodic Protection for divers is noted as necessary (Memo 12).

ire Risk from HPO is noted when opening up cylinders of HPO into unpressurised or "contaminated" lines. The production of PHOSGENE from the over heating of PTFE is another risk noted (Memo 4).

Basic Medical Equipment to be maintained at all times with a bell (SDC) or DIMZ is listed in Memo 7.

These Memos are designed to "alert" professional divers and diving contractors to problems that have arisen to trouble, sometimes fatally, diving operations in the North Sea in association with Oil Rigs and pipes. They naturally draw on experience from other areas also but the chief of the killing grounds for divers appears to be

the Oil Rigs. The problems of the North Sea include multi-nationalities (among companies, divers and languages), cold water, undersupervision and undertraining of divers who have a great money stimulus to work often beyond their abilities, and a "Gold Rush" atmosphere. Caution and moderation are somewhat at a discount, and "necessity" the spur in such an environment. The deaths that have occurred, concerning which too little information is available, appear to be due to the usual factors, viz ignorance, greed, carelessness and diving that is "beyond the state of the art" at the site. Such opinions, it should be needless to add, flow from other sources of information and are NOT to be ascribed to either Commander Warner or the Department of Energy.

Once again the need for full Incident Reporting is noted as a SAFETY measure to reduce future mortality and morbidity. Failure to heed such calls will result in needless suffering and costly compensation claims. The latter consideration should move if mere appeals on grounds of humanity are disregarded! It is unlikely that diving in the South Pacific area will be conducted any more carefully than that in European waters, or that the lack of morbidity reports indicates a higher standard of practice. This is an appeal for the more open discussion of all serious diving-related problems. The legal liability risks will be less in the long, or even short, term from seeking to remedy problems than from trying to deny them. This is something that can only come about if ALL parties involved are agreed that safety and efficiency are ultimately in harmony.



"WE LOST A DIVER, BUT THE DCM IS FINE"