



# INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS

## MEMORANDUM

TO: Distribution

FROM: Alan Spackman, Vice President, Offshore Technical and Regulatory Affairs

SUBJECT: Lifeboat Safety

DATE: 13 August 2009

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“Measures to Prevent Accidents with Lifeboats” is an issue that has been under continuous review by the International Maritime Organization (IMO) since 2000. This ongoing work effort was initiated by Australia (MSC 71/20/7, 17 February 1999). IADC was an early contributor to this effort, identifying issues specifically associated with drills, maintenance, and inspection of lifeboats in an offshore environment (DE 43/INF.10, 2 February 2000).

The results of the IMO’s effort have been reported to IADC’s membership in the periodic reports relating to the activities of IMO’s Maritime Safety Committee (MSC) and its Ship Design and Equipment (DE) Sub-Committee. They have also been the subject of newsletters and bulletins by many flag-State administrations as well as classification societies.

This effort has produced the following guidance documents (available from the IMO website) that IADC believes warrant an in-depth consideration by its membership in a holistic examination of lifeboat safety:

- MSC.1/Circ.1206, Rev.1<sup>1</sup> – Measures to prevent accidents with lifeboats
- MSC.1/Circ.1277<sup>2</sup> – Interim recommendation on conditions for authorization of service providers for lifeboats, launching appliances and on-load release gear
- MSC.1/Circ.1278<sup>3</sup> – Guidance on wearing immersion suits in totally enclosed lifeboats
- MSC.1/Circ.1326<sup>4</sup> – Clarification of SOLAS regulation III/19
- MSC.1/Circ.1327<sup>5</sup> – Guidelines for the fitting and use of fall preventer devices (FPDs)

As these documents are considered, IADC also urges consideration of the following associated issues:

**Replacement of on-load release mechanisms.** Much attention is being given to the potential need to replace on-load release mechanisms of “poor and unstable design.” Interest has been heightened due to the circulation of a dramatic video of a lifeboat incident, and an incident resulting in one fatality and injuries to six other personnel during a planned lifeboat drill on a MODU.

IMO has developed draft amendments to SOLAS chapter III that, when adopted, will require replacement of certain existing release hooks not complying with certain key elements of the amended International Life-Saving Appliances (LSA) Code. IMO has recognized that the evaluation, identification, and

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1 [http://www.imo.org/includes/blastDataOnly.asp/data\\_id%3D25943/1206-Rev-1.pdf](http://www.imo.org/includes/blastDataOnly.asp/data_id%3D25943/1206-Rev-1.pdf)  
2 [http://www.imo.org/includes/blastDataOnly.asp/data\\_id%3D22233/1277.pdf](http://www.imo.org/includes/blastDataOnly.asp/data_id%3D22233/1277.pdf)  
3 [http://www.imo.org/includes/blastDataOnly.asp/data\\_id%3D22234/1278.pdf](http://www.imo.org/includes/blastDataOnly.asp/data_id%3D22234/1278.pdf)  
4 [http://www.imo.org/includes/blastDataOnly.asp/data\\_id%3D25969/1326.pdf](http://www.imo.org/includes/blastDataOnly.asp/data_id%3D25969/1326.pdf)  
5 [http://www.imo.org/includes/blastDataOnly.asp/data\\_id%3D25970/1327.pdf](http://www.imo.org/includes/blastDataOnly.asp/data_id%3D25970/1327.pdf)

replacement of existing “poor and unstable” release hooks will be a complex matter and is developing an additional MSC circular on “Guidelines for evaluation of lifeboat on-load release mechanisms for poor and unstable characteristics”, which should be considered by the DE Sub-Committee at its February 2010 session.

It is anticipated that, with this guidance in hand, Administrations will be in the position to mandate the replacement of certain release hooks. Even so, this will remain a complex matter: It may not be cost-effective to replace release mechanisms on older lifeboats and ergonomically compatible replacement mechanisms may not be available for all current hook arrangements. IADC believes the risks posed by most existing release mechanisms can, in the short term, be mitigated and cautions against taking precipitous action to replace release mechanisms without comprehensively examining all issues related to existing life boat arrangements.

**Fall preventer devices (FPDs).** MSC.1/Circ.1327<sup>5</sup> accepts that, as an interim measure, FPDs can be used to minimize the risk of injury or death associated with a release mechanism of a “poor or unstable design” by providing a secondary alternate load path in the event of failure of the on-load hook or its release mechanism, or of an accidental release of the on-load hook. It does not mandate use of FPDs.

It should be recognized that the use of FPDs introduces new risks and these need to be considered in both the design and operation of the FPDs.

FPDs can not always be fitted, as there is not always a strong enough means of attachment; it depends on the hook arrangement. Generally, FPDs should not be attached to “hang off” or maintenance strap connections as they are not typically designed for the weight of the fully-loaded boat.

The guidelines indicate that wires or chains should not be used as FPDs as they do not absorb shock loads. In considering synthetic strops or slings for FPDs, careful consideration should be given to the potential failure modes of the complete strop/sling assembly, as it is intended to be installed and used.

**Launching and recovery in the offshore environment.** MSC.1/Circ.1326<sup>4</sup> is intended to provide emphasis regarding the authority of the master to assess whether the crew should be on board a lifeboat when it is launched in conformance with SOLAS regulation III/19.3.3.3. (This regulation requires each lifeboat to be launched, and manoeuvred in the water by its assigned operating crew, at least once every three months during an abandon ship drill.)

Most Administrations recognize the difficulties associated with safely launching and retrieving survival craft in the offshore environment, and do not demand that personnel be placed at risk in order to achieve compliance with SOLAS regulation III/19.3.3.3. Where a unit’s operating environment is such that compliance with SOLAS regulation III/19.3.3.3 cannot be safely assured, the Administration should be contacted regarding dispensations or acceptable alternative arrangements.

**Anthropomorphic compatibility.** Most SOLAS-approved lifeboats have been approved on the basis of an assumed occupant mass of 75 kg ( $\approx$  165 lb). The IMO has recently revised its requirements to increase the assumed occupant mass for lifeboats on most new installations to 82.5 kg ( $\approx$  182 lb). IMO did not alter the associated seat width standard, which remains 430 mm ( $\approx$  17 in), when increasing the assumed occupant mass to 82.5 kg. A so-called “Gulf of Mexico standard” is being used by some that assumes an occupant weight of 210 lbs ( $\approx$  95 kg) with a corresponding seat width of 21 in ( $\approx$  530 mm). This matter is also being addressed by coastal State authorities in the North Sea.

Differences between assumed occupant mass and actual mass affects the lifeboat (*e.g.*, in terms of crowding, stability, etc.) and may bring into question the adequacy of the davit, winch, and other weight bearing components. The adequacy of existing lifeboat arrangements should be assessed for anthropomorphic compatibility with the workforce in the MODU's area(s) of operation.

***Redundant lifeboat capacity.*** Separated and redundant lifeboat capacity (or alternatively, free-fall lifeboats) has been required for newer units in recognition of the potential for certain casualties to damage or render inaccessible a unit's lifeboats. Many older units may still be operating without the having the redundant lifeboat capacity now specified in the IMO MODU Code. A recent casualty highlighted the possibility that lifeboats on one side of a unit may be rendered inaccessible.<sup>6</sup>

***Maintaining older lifeboats.*** As with any equipment, lifeboats will reach a point at which replacement becomes a more attractive option than performing major maintenance and repair. Like the average age of the MODU fleet, the average age of a lifeboat is over 25 years. The cost to completely refurbish a lifeboat, not including replacement of the releasing mechanism, can be 50 percent or more of the cost of a new lifeboat. Even after refurbishment many lifeboats will not meet the latest SOLAS and LSA Code standards (*e.g.*, self-righting when fully flooded, four-point restraints, above water egress and entry points, and anthropomorphic compatibility).

A formal 'management of change' process should be used where a replacement-in-kind of any lifesaving appliance component cannot be positively confirmed. Any replacement component should satisfy the original design specification as to size, material, style, type, range, material and chemical properties, controls, operations and procedures. Approval by the flag-State Administration or its recognized organization may be necessary.

***Hydrogen sulphide.*** Special consideration needs to be given to the means of escape for units operating in areas where there is the potential for the release of hydrogen sulphide gas. Again, this issue has been highlighted by a recent casualty.<sup>6</sup>

In general, individual air tanks should not be introduced into lifeboats as there is no provision for securing them: They can pose a missile hazard and/or adversely affect the boat's stability. The LSA Code does provide standards for lifeboats with self-contained air support systems.

If such lifeboats are fitted, the 10 minute (minimum) air supply specified in the LSA Code should be examined in relation to a unit's particular arrangements and anticipated operations. For example, an installed air system should be of sufficient capacity to allow occupants to transition between individual air tanks and lifeboat-supplied air as well as allow time for lowering the boat and moving to an area free of hydrogen sulphide?

***Training and competence.*** Each of the above referenced MSC circulars contains, or implies, an element of training. Personnel undertaking inspections, maintenance and adjustment of lifeboats, launching appliances and associated equipment should be fully trained and familiar with these duties, whether they are rig personnel, service company personnel, or equipment manufacturer employees.<sup>2</sup>

The International Convention on Standards of Training, Certification and Watchkeeping (STCW) provides standards for proficiency in survival craft and rescue boats. While STCW is not directly applicable to many MODUs, IMO resolution A.891(21), "Recommendations on Training of Personnel on

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6 <http://www.pemex.com/files/content/RCA%20Usumacinta%20--%20KAB-101.pdf>

Mobile Offshore Units,”<sup>7</sup> recommends that the STCW standards for proficiency in survival craft and rescue boats be applied to personnel with similar duties on all mobile offshore units, including MODUs. The STCW competency assessment is based upon generalized criteria and personnel should be provided with supplemental training with respect to the specific equipment which they will be assigned to operate. This training (and where applicable) proficiency certification is reinforced through regular participation in drills and exercises.

Similarly, STCW and resolution A.891(21) address both vessel/unit specific ‘familiarization training’ and basic training in ‘personal survival techniques’ intended to provide personnel with the training necessary to cope with emergency situations specific to the unit on which they are serving. As with the training for personnel operating survival craft, the training for personnel who may need to rely on survival craft is reinforced through regular participation in appropriate drills and exercises.

The above training and drills should provide all personnel with realistic expectations regarding the conditions they may encounter during preparations for abandonment, within the survival craft itself, during recovery operations, and the need for discipline in each instance. Lack of appropriate training and discipline can have tragic consequences.<sup>6</sup>

*This document contains recommendations from IADC regarding lifeboat safety.  
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<sup>7</sup> [http://www.imo.org/includes/blastDataOnly.asp/data\\_id%3D5911/A21res891.pdf](http://www.imo.org/includes/blastDataOnly.asp/data_id%3D5911/A21res891.pdf)