Log M-253

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: November 21, 1984

Forwarded to:

Honorable Elizabeth H. Dole
Secretary of Transportation
U.S. Department of Transportation
Washington, D. C. 20590

SAFETY RECOMMENDATION(S)

M-84-48

About 2355 on October 25, 1983, the 400-foot-long United States drillship GLOMAR JAVA SEA capsized and sank during Typhoon LEX in the South China Sea about 65 nautical miles south-southwest of Hainan Island, People's Republic of China (PRC). Of the 81 persons who were aboard, 35 bodies have been located, and the remaining 46 persons are missing and presumed dead. The GLOMAR JAVA SEA currently is resting on the bottom of the sea in an inverted position in about 315 feet of water; its estimated value was $35 million. 1/

Vessels engaged in offshore oil exploration, collectively designated mobile offshore drilling units (MODU's), are divided into three major categories: self-elevating rigs--vessels which utilize bottom bearing legs to raise their hull above the surface of the sea; column-stabilized rigs--vessels supported by columns on submerged buoyant lower hulls; and drillships, or drill barges--vessels with conventional hulls. Self-elevating rigs and drill barges have to be towed from location to location, drillships are self-propelled vessels, and column-stabilized rigs can be either self-propelled or non-selfpropelled. All these vessels are considered vessels in navigation, except self-elevating rigs when fully elevated above the sea surface and, thus, are subject to the U.S. Coast Guard (USCG) manning and crew qualification laws and regulations. Since 1976, the Safety Board has investigated two other major marine accidents with a large loss of life involving vessels engaged in offshore oil exploration. On April 15, 1976, the self-elevating rig OCEAN EXPRESS 2/ capsized and sank with the loss of 13 lives, and on February 15, 1982, the column-stabilized OCEAN RANGER 3/ capsized and sank with the loss of 84 lives.

1/ For more detailed information, read Marine Accident Report--"Capsizing and Sinking of the United States Drillship GLOMAR JAVA SEA in the South China Sea, 65 Nautical Miles South-Southwest of Hainan Island, People's Republic of China, October 25, 1983" (NTSB/MAR-84/08).

2/ Marine Accident Report--"Capsizing and Sinking of the Self-elevating Mobile Offshore Drilling Unit OCEAN EXPRESS, near Port O'Connor, Texas, April 15, 1976" (NTSB-MAR-79-5).

3/ Marine Accident Report--"Capsizing and Sinking of the U.S Mobile Offshore Drilling Unit OCEAN RANGER off the East Coast of Canada, 166 Nautical Miles East of St. John's, Newfoundland, February 15, 1982" (NTSB-MAR-83-2).

In 1978, the USCG published regulations for the inspection and certification of MODU's. However, it has not included personnel qualifications or manning standards for MODU's in the regulations, except to specify the number and qualifications of lifeboatmen required to man primary lifesaving equipment and to require that the owner must designate an individual to be the master or person-in-charge of a MODU. As a result of its investigation of the capsizing and sinking of the OCEAN EXPRESS, the Safety Board issued Safety Recommendation M-79-43 on April 17, 1979, recommending that the USCG:

> Expedite the promulgation of regulations for personnel qualifications and manning standards for self-elevating mobile offshore drilling units, and require that industrial personnel who perform seafaring duties obtain appropriate training and licenses.

On June 4, 1980, the USCG responded as follows:

> The Coast Guard partially concurs with the recommendation. Manning and crew qualification standards are being applied to MODU's of the "bottom bearing" non-self-propelled type (such as the OCEAN EXPRESS) as these units come under the inspection process under 46 CFR I-A in the next several years. Manning standards will apply only when such units are in navigation. At this point it is contemplated that the standard manning for marine personnel, while in navigation, will consist of:
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> 1 - Designated Person in Charge
> 2 - Able Seaman
> 1 - Ordinary Seaman
> -- Lifeboatman (number appropriate for the installed lifesaving equipment necessary to accommodate the number of persons on board).
>
> Development of requirements for personnel on structures and MODU's not in navigation is being developed under the authority of the OCS [Outer Continental Shelf] Act. The Coast Guard believes that the OCS Act places limitations on the Coast Guard's ability to carry out the intent of this recommendation while the unit is in the bottom bearing mode. The OCS Act is applicable only to those activities on the United States Outer Continental Shelf. Accordingly, the application of a manning scale on units engaged in worldwide operations while in the bottom bearing mode is not possible under the provisions of the OCS Act.

On June 9, 1981, the USCG further replied:

> We have attached an IMCO [International Maritime Consultative Organization] document entitled "Training Qualifications of Crews Serving on Mobile Offshore Units" (STW XIV/WP.4) dated 21 January 1981 (Enclosure (2)). This document deals with a variety of considerations affecting units such as the OCEAN EXPRESS. Various duties/training qualifications of the person-in-charge and other persons are covered. The working group preparing the document did not stipulate whether the person-in-charge should be drawn from seafarer or regularly assigned special personnel with responsibility for others (Appendix II, 3 and 4). This recognizes reality in that a mobile unit such as the OCEAN EXPRESS is a complex mixture of both industrial and

marine considerations. The Coast Guard is of a similar opinion and believes a person qualified under either category could function in the position. Although this document is currently a working paper, it is scheduled to be formally reviewed at the 15th session of the Subcommittee on Standards of Training and Watchkeeping scheduled for February 1982. Due to the inherent limitations of the OCS Lands Act and the restrictions of the domestic statutes concerning vessel inspection and manning, the international agreement method appears the most viable initial approach. Although the resulting domestic regulations may be somewhat fragmented (due to the diverse statutory authority) and lacking when considering a bottom bearing unit on a foreign assignment, a foreign country which subscribes to the resolution could fill in this gap.

Insofar as the imposition of additional manning regulations specifically for MODU's, this appears to be generally unwarranted. Presently 46 CFR 157.20-15 addresses the Able Seaman/Ordinary Seaman question. The person-in-charge qualifications would be best delayed pending international action. As the STW working paper is almost a direct copy of a position paper presented at the 14th session of the STW in January 1981 by the International Association of Drilling Contractors (IADC), it can be reasonably assumed the industry will initiate compliance. Further, the MODU initial inspection program should be completed during the late summer or early fall of 1981, utilizing the manning scale noted in our letter of 4 June 1980.

The only statement in STW XIV/WP.4 concerning personnel qualifications and manning standards, other than emergency procedures and onboard training for group survival states:

3. RESPONSIBILITIES OF PERSON IN CHARGE CONCERNING MARITIME SAFETY TRAINING

3.1 The person in charge should be well acquainted with the characteristics, capabilities and limitations of the unit. This person should be fully cognizant of his responsibilities for emergency organization and action, for conducting emergency drills and training, and for keeping records of such drills.

3.2 The person in charge, or persons delegated by him, should possess the capability to operate and maintain on board the unit all fire-fighting equipment and life-saving appliances and be able to train others in these activities.

As a result of its investigation of the capsizing and sinking of the OCEAN RANGER, the Safety Board on February 28, 1983, issued Safety Recommendation M-83-8 to supersede Safety Recommendation M-79-43 and to call for similar regulations covering all types of MODU's. Safety Recommendation M-83-8 recommended that the USCG:

Expedite the promulgation of regulations regarding personnel qualifications and manning standards for mobile offshore drilling units.

In a letter dated July 20, 1983, the USCG stated that:

> The Coast Guard concurs with this recommendation. The licensing qualifications and examination requirements for masters, mates, chief engineers, and assistant engineers on mobile offshore units, which include mobile offshore drilling units, are part of a major regulatory revision project of 46 CFR Part 10. The Notice of Proposed Rulemaking is undergoing the final clearance process and is expected to be published shortly.

The Safety Board has classified Safety Recommendation M-83-8 as "Open--Unacceptable Action" pending further response from the USCG.

The Safety Board also issued Safety Recommendation M-83-9 on February 28, 1983:

> Require that the master and the person-in-charge of a mobile offshore drilling unit be licensed and that their licenses be endorsed as qualified in mobile offshore drilling operations, including knowledge of U.S. Coast Guard regulations, stability characteristics of mobile offshore drilling units, the operation of ballast systems on mobile offshore drilling units, and the use of lifesaving equipment peculiar to mobile offshore drilling units.

In response to Safety Recommendation M-83-9, the USCG stated that:

> The Coast Guard concurs with this recommendation. The Coast Guard is initiating a regulatory project to revise 46 CFR Subchapter I-A. As part of this project, 46 CFR 107.111 will be revised to indicate that the master of mobile offshore units (which includes mobile offshore drilling units) shall be the person-in-charge. All mobile offshore units will be required to have a licensed master, either as a master of mobile offshore units or a conventional master's license. Included in the 46 CFR Part 10 revision is a list of examination topics for a license as a master of mobile offshore units. This list includes all of the subjects mentioned in this recommendation. The need to endorse a conventional master's license has not been addressed in this regulatory proposal since the conventional master ocean licenses qualify a person to serve on mobile offshore units without further endorsement because of the similarity in examination topics and more extensive seagoing experience required for the conventional master's license. While we recognize that the industrial licensed masters must be familiar with unique equipment and operating conditions, it is our opinion and experience that the conventional masters will acquaint themselves with such equipment and conditions just as masters presently do with different types of cargo, freight or tank vessels. To emphasize this fact, a paragraph has been added to the revision of 46 CFR Part 10 which reads as follows: "With few exceptions, these regulations do not specify or restrict licenses to particular types of service such as tankships, freight vessels, or passenger vessels. However, it is incumbent on every licensed officer to become familiar with all unique characteristics of each vessel served upon as soon as possible after reporting aboard for duty. As appropriate for a deck or engineer license, this includes, but is not limited to: maneuvering characteristics of the vessel; proper operation of the installed navigation equipment; firefighting and lifesaving equipment; stability and loading characteristics; and main propulsion and auxiliary machinery.

The Safety Board has classified Safety Recommendation M-83-9 as "Open--Acceptable Action."

On August 8, 1983, the USCG published a Notice of Proposed Rulemaking (NPRM) to amend the regulations dealing with the licensing of merchant marine officers. Although the NPRM addressed the Safety Board's recommendations regarding personnel qualification standards in Safety Recommendations M-83-8 and -9, the NPRM did not address manning standards other than that the master shall be in charge. Moreover, the USCG is planning to issue a revised NPRM sometime in 1985 which will delay the actual promulgation of MODU personnel qualification standards. The capsizing and sinking of the OCEAN EXPRESS, a self-elevating MODU, the OCEAN RANGER, a column-stabilized MODU, and the drillship GLOMAR JAVA SEA all involved matters putatively under the cognizance of mariners and not industrial personnel. The Safety Board believes that the USCG has delayed too long the promulgation of MODU personnel qualification and manning standards and reiterates Safety Recommendations M-83-8 and -9. The MODU license personnel qualification standards proposed in the August 1983 NPRM dealing with licensing generally are now scheduled to be revised at a date in the indefinite future. In view of the demonstrated problem and since the USCG has not yet addressed MODU manning standards, the Safety Board believes that the Secretary of Transportation should direct the USCG to promulgate MODU personnel qualification and manning standards as a matter of urgent priority.

Therefore, the National Transportation Safety Board recommends that the Secretary of the U.S. Department of Transportation:

> Direct the Commandant of the U. S. Coast Guard to address immediately the early promulgation of personnel qualification and manning regulations for mobile offshore drilling units. (Class II, Priority Action) (M-84-48)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and BURSLEY, Member, concurred in this recommendation.

By: Jim Burnett
Chairman