



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

SP-22  
Log M-321A

**Date:** October 14, 1986

**In reply refer to:** M-86-108

Mr. Ed McGhee  
Executive Vice President  
International Association of  
Drilling Contractors  
Post Office Box 4287  
Houston, Texas 77210

On October 27, 1985, the U.S. mobile offshore drilling unit PENROD 61 was drilling for oil at an offshore drilling site about 25 nautical miles (nmi) south of the Louisiana coast in the Gulf of Mexico. The PENROD 61, a self-elevating type drilling unit, was in the jacked-up mode in about 246 feet of water and was elevated about 50 feet above the surface of the water on three bottom bearing legs. About 2330 c.s.t. in seas reported to be in excess of 30 feet high and in winds gusting to 80 knots, the PENROD 61 collapsed into the sea. The 43 persons on board abandoned the vessel and all but one were later rescued. After it fell into the sea the PENROD 61 drifted with the wind and sea, struck the nearby PENROD 60, and subsequently sank about 9 nmi northwest of its drilling site. As a result of this accident the PENROD 61, valued at \$40 million, was destroyed and one man lost his life. 1/

The hurricane contingency plan developed by Chevron which was in effect at the time of this accident did not provide clear, step-by-step instructions for the evacuation of personnel from MODUs working offshore and Penrod had no formal hurricane evacuation plan at all. The testimony of the Chevron southeastern division manager, the Chevron drilling representative, and the alternate Penrod toolpusher from the PENROD 61 indicates that there was confusion concerning who had the responsibility to order an evacuation of the MODU due to weather conditions. Areas of responsibility for evacuation of the rig appear to overlap since the oil company was responsible for providing transportation to and from the rig, and the drilling contractor was responsible for the safety of the rig and the safety of personnel on the rig. This division of responsibility has been a factor in previous MODU accidents which the Board has investigated, and the Board has repeatedly emphasized the importance of having one person designated as the decision-maker in an emergency. The Safety Board believes that this accident illustrates the need for severe weather evacuation plans for MODUs which

1/ For more detailed information read, Marine Accident Report—"Collapse of the U.S. Mobile Offshore Drilling Unit PENROD 61, Gulf of Mexico, October 27, 1985 (NTSB/MAR-86/10).

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designate the person responsible for ordering the evacuation. The plan should include step-by-step procedures to be followed in carrying out the evacuation, and should clearly delineate the roles of oil company and drilling contractor employees in the evacuation process.

In order for a severe weather evacuation plan to be effective, it must clearly define when evacuation procedures should be initiated. Adverse wind and sea conditions typically arrive at a location far in advance of the center of the storm system. An evacuation must be ordered before the operational limits of the evacuation vehicles are reached at the evacuation site. Often this will mean that an evacuation must be ordered before the storm system has intensified to hurricane proportions. Criteria should be developed to correlate the decision to initiate evacuation with weather forecast information, taking into account the available time and distance factors before severe weather and sea conditions preclude a safe evacuation. The timely evacuation of a MODU, therefore, involves many details that must be worked out well in advance of the need to evacuate. The Safety Board believes that each MODU should have a detailed severe weather evacuation plan developed for each offshore location at which the unit is engaged in drilling operations. Additionally, the time necessary for securing the well, the number of persons to be evacuated, the distance over which the evacuation is to take place, and the available transportation resources must be considered in establishing the time factor for initiating an evacuation. Considering the high number of MODUs that work in the Gulf of Mexico, it is conceivable that situations may develop when insufficient resources are available to accomplish an evacuation safely. For this reason, the Safety Board believes that oil companies and drilling contractors who operate manned platforms and MODUs within the same offshore area in the Gulf of Mexico should develop joint hurricane evacuation plans which pool available transportation resources.

As a result of its investigation, the National Transportation Safety Board recommends that the International Association of Drilling Contractors:

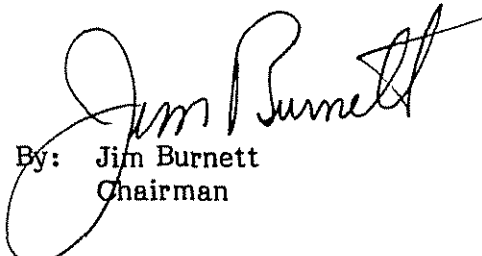
Encourage member contractors who operate mobile offshore drilling units in the same area of the Gulf of Mexico to develop joint severe weather evacuation plans to pool available transportation resources so that the simultaneous evacuation of a number of MODUs working in the same geographical area may be conducted in an orderly and effective manner. (Class II, Priority Action) (M-86-108)

Also as a result of its investigation, the Safety Board issued Safety Recommendations M-86-102 through -107 to the U.S. Coast Guard and M-86-109 through -112 to the PENROD Drilling Contractor.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility ". . . to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its

safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation M-86-108 in your reply.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER and NALL, Members concurred in these recommendations.



By: Jim Burnett  
Chairman