



PANAMA MARITIME AUTHORITY
MERCHANT MARINE CIRCULAR MMC-289

PanCanal Building
Albrook, Panama City
Republic of Panama
Tel: (507) 501-5355
jortega@segumar.com

To: Owners/Operators of Panamanian Mobile Offshore Units, Recognized Organizations and Masters

Subject: Bottom Surveys of Mobile Offshore Units (Drilling and non-Drilling) certificated under MODU Code adoption

Reference:

- a) **Technical Note 1/83 dated January 01, 1983,**
 - b) **MMC NO. 204,**
 - c) **Res No. 614-438-ALCN dated December 13, 1983, IMO 1979 MODU Code,**
 - d) **Res No. 603-04-223-ALCN dated August 12, 1992, IMO 1989 MODU Code,**
 - e) **Res No. 106-OMI-102-DGMM dated June 27, 2012, IMO 2009 MODU Code**
-

1. Introduction

Over the years, certain types of large Mobile Offshore Drilling Units have been built and certificated and they undergo the problem of cannot be handled by any existing drydocking facility. Moreover, most of the time, Mobile Offshore Drilling Units are prone to exceed the due date of the two drydocking surveys required within the any five-year period by the IMO MODU Codes (89 & 09/1.6.1.5) because of being on location or engaged in drilling operations. As consequence an Underwater Inspection Survey in lieu of Drydocking Survey is required.

Also taking into account that the 1989 and 2009 MODU Codes establish that Administrations may allow underwater inspections in lieu of drydocking surveys provided it is satisfied that such inspections are equivalent to a drydocking survey, this Administration has developed procedures to be followed when a physical out of water drydocking survey cannot be carried out.

2. Purposes

To set forth and to inform Classification Societies and Owner/Operators about procedures to be used when conducting an **Underwater Inspection In Lieu of Drydocking Survey** (UWILD) on Mobile Offshore Units (Drilling and Non-Drilling) certificated under the provisions of the MODU Code (MODUs/MOUs).

Additionally to inform Classification Societies and Owner/Operators of MODUs/MOUs with the Panamanian flag about the standards that this Administration has taken for the surveys and certification of MODUs under the applicability of the 1989 and 2009 IMO MODU Codes as well

<i>Prepared by: Translator</i>	<i>Revised by: Compliance and Enforcement Deputy Chief</i>	<i>Approved by: Compliance and Enforcement Chief</i>
<i>Control N°: F-RIN-04-01</i>	<i>Version: 03</i>	<i>Date: 06 July, 2011</i>
		Page 1 of 7

as of existing MODUs (1979 and pre-1979 MODU Code units) which do not require a drydocking survey under the 1979 MODU Code.

3. Application

The procedures so that an Underwater Inspection in lieu of Drydocking Survey can be carried out will apply to all MODUs/MOUs irrespective of their year of construction.

4. Definitions

- 4.1 Mobile offshore drilling unit (MODU):** is a vessel capable of engaging in drilling operations for the exploration for or exploitation of resources beneath the seabed such as liquid or gaseous hydrocarbons, sulphur or salt.
- 4.2 Self-elevating unit:** is a unit with movable legs capable of raising its hull above the surface of the sea and lowering it back into the sea.
- 4.3 Underwater Survey:** It is the examination, while the vessel is afloat, of all accessible parts of the vessel's underwater body and all through-hull fittings, which will provide a result equivalent or an information normally obtained from a dry-dock survey.
- 4.4 ROV:** A Remote Operated Vehicle unmanned (rather than manned submersibles subject to separate requirements), of numerous designs, but with a same system modifiable to carry out different tasks such as Observations, Surveys, Inspections (usually on specific, pre-defined areas of offshore structures and subsea equipment), Construction, Intervention, Burial & Trenching. When considering providing a service with a ROV instead of an UWS by a diving company, it must take into account the guidelines & recommendations contained in the Code of Practice for The Safe & Efficient Operation of Remotely Operated Vehicles 2009.
- 4.5 Floating Offshore Installations:** A buoyant structure, supported by or attached to the sea floor, whose design is based on foundation and long term environmental conditions at a particular installation site where it is intended to remain. The sea floor attachment afforded to the platform may be obtained by pilings, direct bearing, mooring lines, anchors, etc.
- 4.6 Column Stabilized Unit:** Is a unit with the main deck connected to the underwater hull or footings by columns or caissons.
- 4.7 Surface type units:** Is a unit (such as drillship, barge unit, tender, etc.) with a ship or barge-type displacement hull of single or multiple hull construction intended for operation in the floating condition.

5. Procedures

This Administration may consider an Underwater Inspection in lieu of Drydocking Survey (UWILD) at each Dry-Docking Survey, as long as, the result of said survey is equivalent or as same as that obtained from a drydocking survey and the following information is submitted:

<i>Prepared by: Translator</i>	<i>Revised by: Compliance and Enforcement Deputy Chief</i>	<i>Approved by: Compliance and Enforcement Chief</i>
<i>Control N°: F-RIN-04-01</i>	<i>Version: 03</i>	<i>Date: 06 July, 2011</i>
		Page 2 of 7

1. **Request.** The Recognized Organization (RO) requesting the UWILD authorization, shall send information containing the following details:
 - 1.1 Reason or circumstances under which the UWILD is requested.
 - 1.2 Affirmation that they have no objection that the Underwater Survey replaces the Drydocking Survey.
2. **Unit's survey status.** It shall indicate known damages, delivery date and MODU Code to which the unit has been certificated as well as, when applicable, the Tailshaft survey of the unit.
3. **Plans and procedures reviewed by the RO.** They are to be made available onboard for the purpose of carrying out an onboard preplanning of the survey with the Surveyor.

NOTE 1: *Prior to the UWILD survey, the RO must notify to the owner or manager of the unit if there is record of abnormal deterioration, leg damage, underwater structure damage, grounding (since the last dry-dock or In-Water Survey) or any other damage affecting the fitness of the unit, the UWILD will not be acceptable or credited and the unit will be required to be dry-docked to effect the repairs prior to crediting the dry-dock survey.*

5.1 ALL UNITS

The following conditions and physical features under which a properly conducted UWILD may be credited as a Dry-dock Survey are to be taken into account by the RO:

5.1.1 Conditions

- 1) **Plans.** They should include nomenclature of underwater parts and drawings or forms for laying out the areas to be surveyed, the extent of hull cleaning, nondestructive testing locations (including NDT methods) and for mapping damage or deterioration found. The examination of items associated with the Special or Continuous Surveys and Tail Shaft Surveys is to be included in the plans.
- 2) **Type, quality and condition of the equipment to be used during the UWILD.** The examination of the entire unit below the waterline is to be carried out by a suitably qualified diver (or ROV such as defined) using (1) closed-circuit television (CCTV) with color monitor, (2) color tape video recording system along with two-way communication capable of being monitored by the Surveyor, as required, or photographic documentation, or both, depending on the age and type of unit.
 - 2.1 **Reports:** This is to be supplemented by the diver's report, describing and attesting to the conditions found. A copy of this diver's report and pertinent photographs are to be submitted to the attending Surveyor for retention at the RO's local office for five (5) years. Copies are also to be retained onboard, together with any video recording, for future references for the life of the unit.

<i>Prepared by: Translator</i>	<i>Revised by: Compliance and Enforcement Deputy Chief</i>	<i>Approved by: Compliance and Enforcement Chief</i>
<i>Control N°: F-RIN-04-01</i>	<i>Version: 03</i>	<i>Date: 06 July, 2011</i>
		Page 3 of 7

- 2.2 Damaged areas are to be photographed. Damaged areas may require internal examination, measurements, marking and thickness gauging of such locations may be a necessary adjunct as determined by the attending Surveyor. Means are to be provided for locating, orienting and identifying underwater surfaces in photographs or on video tapes.
- 2.3 Underwater or internal thickness gaugings of suspect areas may be required in conjunction with the underwater inspection. Means for underwater nondestructive testing may also be required for fracture detection. If required these are to be provided by the Owner.
- 2.4 An examination by an ROV is to be at least as comprehensive as an examination by a Diver. If the Surveyor is not satisfied with the examination by the ROV, the Owner is either to provide a Diver or proceed to Dry-dock.
- 3) **Space.** The site must be in an area with sufficient water depth under **the keel** and sufficient clearance adjacent to both sites of the unit to allow the diver or ROV to safely survey the entire underwater **hull** of the vessel, without concern for the presence of hostile sea life or high current velocities.
- 4) **Water visibility.** The site must have good underwater visibility so as to avoid that a poor clarity could adversely affect the intent of the examination and the safety of the unit. It is a particularly subjective item, and the decision of acceptability will be based primarily on the clarity of the television monitor presentation.
- 4.1 If the Surveyor is not satisfied and he feels that could not be obtained a meaningful examination and an information normally provided from a dry-dock survey, the shipowner must decide between (1) to carry out a dry-dock survey or (2) move the unit to a location with better visibility.

5.1.2 Physical Features

- 1) The following is to be examined during the course of the UWILD:
- 1.1 External surfaces of the hull, keel stem, stern frame, rudder, nozzles, and sea strainers are to be selectively cleaned and examined together with appendages, the propeller, exposed parts of stern bearing assembly, rudder pintle and gudgeon securing arrangements, sea chests and strainers and their fastenings. Propeller shaft bearing, rudder bearing, and steering nozzle clearances are to be ascertained and reported upon.
- 1.2 Internal Examinations of Tanks and Voids- At the minimum at least two (2) pre-load or ballast tanks to be internally examined.
- 1.3 Sea Chests - Sea chests and strainers are to be cleaned and examined.

<i>Prepared by: Translator</i>	<i>Revised by: Compliance and Enforcement Deputy Chief</i>	<i>Approved by: Compliance and Enforcement Chief</i>
<i>Control N°: F-RIN-04-01</i>	<i>Version: 03</i>	<i>Date: 06 July, 2011</i>
		Page 4 of 7

1.4 Sea Valves - For Underwater Inspection in Lieu of Drydocking Survey associated with Special Surveys, means are to be provided to permit the opening up of all sea valves for internal examination.

1.5 External Portions of Propulsion Units- External portions of propulsion units are to be examined, where applicable.

5.2 SELF-ELEVATING UNITS

In addition to the conditions and physical features above-mentioned (item 5.1), at each UWILD not associated with Special Surveys, the RO will take into account a close visual and extensive NDT (Nondestructive Testing) to some areas such as:

- a) Leg-to-spudcan connections
- b) Jackhouse/jackcase-to-deck connections
- c) Brace-to-chord connection in areas of leg that have been predominately in way of the upper and lower guides.
- d) Leg-to-mat connections
- e) Suspect areas

5.2.1 Areas of the legs in way of the upper guides are to be examined and subjected to NDT to identify any damage resultant from towing the drilling unit with its legs elevated. Areas of the legs in way of the lower guides are to be examined and subjected to NDT to identify any damage as a consequence of operating in the elevated/ drilling mode.

5.2.2 Where the spud cans or mat are partly or entirely obscured below the mud line when the UWILD is otherwise being completed, consideration will be given to postponement of the UWILD of the unit until the next rig move, but not later than the next scheduled dry-dock survey (or UWILD).

5.2.3 When a self-elevating drilling unit has been on same location without a move for a five year period, and therefore its two consecutive Dry-Dock Surveys could not be completed within the five year cycle required, the drilling unit will be considered a site-specific Offshore Installation and will no longer be eligible for Classification as a Self-Elevating Drilling Unit. Compliance with the Rules for Building and Classing Offshore Installation (Offshore Installation Rules) of the Recognized Organization will be required.

However, upon completion of a UWILD and the approval of the items noted below the facility may be considered by the RO eligible for Classification as a Self-Elevating Drilling Unit.

5.2.3.1 Foundation: The bearing capacity and sliding resistance of the foundation are to be investigated.

5.2.3.2 Structural Analysis: The leg to hull connections and soil/structure interaction are to be properly considered. The upper and lower guide flexibility, stiffness of

<i>Prepared by: Translator</i>	<i>Revised by: Compliance and Enforcement Deputy Chief</i>	<i>Approved by: Compliance and Enforcement Chief</i>
<i>Control N°: F-RIN-04-01</i>	<i>Version: 03</i>	<i>Date: 06 July, 2011</i>
		Page 5 of 7

the elevating/ holding system, and any special details regarding its interaction with the leg should be taken into consideration. For units with spud cans, the legs may be assumed pinned at the reaction point. For mat supported units, the soil structure interaction may be modeled using springs.

5.2.3.3 Holding Capacity: While used as a site dependent platform structure, the calculated loads are to demonstrate that the maximum holding capacity of the jacking system will not be exceeded.

5.2.3.4 Preload: Units with spud cans are to be preloaded on installation in order to minimize the possibility of significant settlement under severe storm conditions.

5.2.4 Where Surveyors are engaged in the survey of a grouping of structures of similar design and location, and where requested by the operator, special consideration will be given to the timing of annual surveys and special surveys such that all periodical survey due dates can be harmonized with the UWILD.

5.3 COLUMN STABILIZED UNITS

In addition to the conditions and physical features above-mentioned (item 5.1), at each UWILD not associated with Special Surveys, the RO will take into account a close visual and extensive NDT (Nondestructive Testing) to some areas such as:

External surfaces of the upper hull or platform, footings, pontoons or lower hulls, underwater areas of columns, bracing and their connections, as applicable, are to be selectively cleaned and examined.

Nondestructive testing may be required of areas found to be suspect.

6. Repairs and Deficiencies

Any required repairs should be performed to the satisfaction of the attention surveyor.

Depending upon the magnitude of the repair or the numbers of repairs necessary, if the underwater survey reveals damage or deterioration that requires immediate attention, the attending surveyor may require that the unit be dry-docked in order that a detailed survey can be undertaken and the necessary repair is carried out.

Taking into account that limited underwater repairs are possible, utilizing newly developed techniques or materials, any underwater weld will be considered a temporary repair, subject to reevaluation at subsequent inspections and haul outs.

Damage, failure, deterioration or repair to the classed structure, which affects or may affect classification, is to be submitted by the Owner or their representatives for examination by the Surveyor at first opportunity.

<i>Prepared by: Translator</i>	<i>Revised by: Compliance and Enforcement Deputy Chief</i>	<i>Approved by: Compliance and Enforcement Chief</i>
<i>Control N°: F-RIN-04-01</i>	<i>Version: 03</i>	<i>Date: 06 July, 2011</i>
		Page 6 of 7

NOTE 2: *This Merchant Marine Circular permits owners/operators to consider UWS in lieu of dry-dock, but it stresses that the underwater survey program is an option that the unit's owners/operators have elected to use; therefore, responsibility for the management of the unit, its personnel, and maintenance of necessary safety and service systems remains at all time with the Master/Offshore Installation Manager and his representatives.*

April, 2014

<i>Prepared by: Translator</i>	<i>Revised by: Compliance and Enforcement Deputy Chief</i>	<i>Approved by: Compliance and Enforcement Chief</i>
<i>Control N°: F-RIN-04-01</i>	<i>Version: 03</i>	<i>Date: 06 July, 2011</i>
		Page 7 of 7