

# **Guidelines for the Content of MOU Move & Anchor Handling Workscope**



## General

Following onto the Bourbon Dolphin casualty the Marine Safety Forum formed several working groups to review the procedures and working practises that were currently in place for MOU move operations.

These guidelines should be read in conjunction with the North West European Area Guidelines for the Safe Management of Offshore Supply and Anchor Handling Operations

This document is a Guideline to assist in producing an industry standard format for MOU Move and Anchor Handling Workscopes



## Abbreviations

AH	Anchor Handling
AHV	Anchor handling vessel
DP	Dynamical Positioning
HIRA	Hazard Identification and Risk Assessment
HSE	Health and Safety Executive
MCA	Maritime Coastguard Agency
MOU	Mobile offshore unit
MOC	Management of Change
MOU	Mobile offshore unit
OSD	Offshore Safety Division
PIC	Person In Charge
SIMOPS	Simultaneous operations
SMS	Safety Management System
SWL	Safe Working Load

## **FORMAT:**

The document should be prefaced with a table of contents:

1. COVER SHEET
2. TABLE OF CONTENTS & ABBREVIATIONS USED
3. INTRODUCTION
4. HEALTH SAFETY AND ENVIRONMENT
5. DESCRIPTION OF UNIT
6. SUPPORT
7. DEPARTURE LOCATION
8. TOWING
9. ARRIVAL LOCATION
10. APPENDICES ITEMS PENETRATION FLOW CHART

## 1. Front Cover Sheet

Details of Procedure author, checking process, revision history and dates; and approval names and signatures

## 2. Table of Contents and Abbreviations used

## 3. Introduction

To be specific to the operation and contain operational summary

- Detail requirements for Offshore pre-meeting with all Vessel Masters in attendance via conference call to discuss Risk Assessments
- Time Break down Estimates
- It is recommended that key personnel such as Towmaster, MOU Person In Charge and Operators Representative sign to the effect that they agree to follow the MOU move plan.
- Also that at the “Hold Points” these same key personnel collectively agreed that conditions are suitable to commence the next phase of the operation.
- Limiting Environmental Criteria
- Overview of Notification and advisory requirements
- List of supporting documentation such as:
  1. MOU Operations Manual
  2. MOU Safety case
  3. MOU Owner and Operator references
  4. Local and regulatory Guidance
  5. North West European Area Guidelines for the Safe Management of Offshore Supply and Anchor Handling Operations (NWEA) Latest revision
  6. HSE operations Notice #3,6 & 65
  7. HSE OSD 21 for jack ups
  8. Warranty certificate of towage approval

These documents, or extracts from them, may also be referred to in Appendices

Define “**Hold Points**” and “**Trigger Points**” to be used

Hold points are phases of the operation which may be completed in isolation or in a limited weather window. Hold points should be at suitable breaks which prompt a discussion to determine if it is appropriate to commence a phase of the operation.

### Examples:

- Prior to recovering Secondary Moorings
- Prior to recovering Primary Moorings and Going on Tow
- Prior to Entering 500 m zone at destination location
- Prior to maneuvering/ mooring operations at destination location
- Prior to running Secondary moorings
- Prior to moving along side or over another structure

- Prior to jacking operations

Trigger points are defined as occurrences or events which would trigger a discussion as to whether it is safe to continue with the current operation

**Examples:**

- Significant sea height reaches xx m
- Wind speed reaches xx kts
- Current reaches xx kts or adversely impacts on operations
- Visibility reduced to under one mile
- Unexpected loads experienced at either by any AHV or the MOU
- Mooring equipment problems
- Any mechanical problems aboard any AHV or MOU which may affect the operation
- Any technical faults with the survey and navigation equipment
- If at any stage there is any doubt about being able to maintain the clearance between the chains/wires and any sub-sea asset

#### **4. Health Safety and Environmental**

Should include a statement of Health, Safety and Environmental expectations for the MOU Move Operation and define which policies are to be used

Should include that all personnel are empowered to intervene; if for any reason they feel it is unsafe to continue, they do not understand or know what to do, or the agreed plan is not being followed

- Outline of pre move meetings and briefings
- Define Management of Change process
- Define the Risk Assessment processes to be used offshore
- Define vessel stability and loading requirements for supporting vessels
- Conduct a Post Move Review
- It is recommended that on completion of a MOU move, the key players and vessel Masters conduct an after action review to evaluate what went well and to identify possible areas for improvement

#### **5. Description of MOU**

- Unit type, i.e. Semi Submersible, Jack Up, Barge, FPSO
- Critical dimensions and key information taken from MOU Operations Manual
- Mooring size, type and length, system of numbering of anchor lines and anchor patterns for both departure and arrival locations
- Anchor types, weight and quantity
- Towing gear arrangement Maximum Working Load, based on percentage of Maximum Break Load of weakest component
- Propulsion systems (size and type of thrusters, DP on MOU/MODU)

- Draft and freeboard at both locations and during the tow. This should include such as jack up leg protrusion below the hull
- Where appropriate the MOU data card to be made available to Vessel Masters
- Detail any environmental limits for MOU operations

## 6. Support

- Vessel requirements shall be based on defined expected worst case dynamic loadings
- Mooring and rigging equipment
- Towing Arrangements
- Survey and Navigation package
- Weather forecasting service
- Tidal and current information

## 7. Departure Location

- Positions/coordinates
- To contain topographical diagrams of sea bed showing sub sea structures, pipelines and obstructions, slopes and such as sand hills and shallows
- Drawings of current and proposed anchor patterns showing all mooring arrangements
- Schedule for mooring recovery
- Details of any skidding operations within mooring patterns
- Water depths
- Bottom type
- Catenary curves
- Soils data and penetration curves for Jack Ups
- Leg extraction procedures for Jack Ups
- Positioning tolerances & closest points of approach
- Confirm minimum distances horizontal/vertical to installations and pipelines for anchors and mooring lines, including elevated catenary

## 8. Towing

- Expected Duration of tow and Distances involved
- Adverse Weather contingencies and safe havens
- Emergency procedures
- Responsibilities & command of tow and any transfer of that command
- Passage Plan, Routing
- Towing Catenary details or restrictions

## 9. Arrival Location(s)

- Positions/coordinates
- To contain topographical diagrams of sea bed showing sub sea structures, pipelines and obstructions, slopes and such as sand hills and shallows

- Drawings of proposed anchor patterns showing all mooring arrangements
- Schedule for mooring deployment
- Details of any skidding operations within mooring patterns
- Water depths
- Bottom type
- Catenary curves
- Soils data and penetration curves for Jack Ups
- Preload requirements for Jack Ups
- Positioning tolerances & closest points of approach
- Cross tensioning of moorings at arrival location
- Contingencies for mooring slippage
- Confirm minimum distances horizontal/vertical to installations and pipelines for anchors and anchor lines, including elevated catenary

## **On Shore Planning**

On shore MOU Move Meeting to be held where operational procedures and responsibilities will be reviewed and agreed upon.

- Carry out an on shore Risk Assessment
- Identify who hires & selects support vessels, mooring and towing equipment, navigational equipment etc
- Specify details of additional mooring, towing and navigational equipment required in support of the MOU move and Anchor Handling process.
- Identify who will brief vessels  
Refer to:  
MSF 'Risk Assessment Rig Move Operations'.  
MSF 'Vessel Health, Safety and Environmental Check List' to be completed at this time.
- Identify who will brief towmasters  
Refer to MSF 'Risk Assessment Rig Move Operations'
- Identify who will carry out mooring analysis, to include anchor pattern, step/skid drawings, catenary curves. Details drawings to be included in procedure
- Determine who provides Weather/wave data and tidal streams.
- Identify SIMOPS that may affect MOU Move operation and define who has primacy
- Define shut downs or bleed down operations required of adjacent installations and / or pipelines
- Determine logistics requirements and responsibilities to ensure all equipment is sourced, certified and shipped
- Any change of hire details during move are defined
- Agree roles and responsibilities for OIM/PIC, Barge Master, Towmasters, Operators Marine Rep, Warranty Rep. Vessel Masters etc.
- Appoint sole point of contact through which all rig move notifications and exterior communications will pass.
- Agree 'Contingency Planning' requirements.



## 10. Appendices

### ITEMS for inclusion:

- ROLES AND RESPONSIBILITIES for key roles such as OIM/PIC, Towmasters, Operators Marine Representatives , Positioning /Navigation providers
- Names and CONTACT DETAILS of all parties, including Emergency Contacts and Onshore Support
- RIG MOVE RISK ASSESSMENT e.g.. MSF Level 1 HIRA
- REGULATORY OR LOCAL REQUIREMENTS
- TOW ROUTE/PASSAGE PLAN
- MOU DATA CARD
- DRAWINGS, CHARTS and SKETCHES
- DESCRIPTION OF ANCHOR TYPES AND THE USE OF, MOORING CONFIGURATION DRAWINGS
- ADDITIONAL EQUIPMENT
- SEA BED BOTTOM SURVEY, BATHYMETRY
- TIDAL & CURRENT INFORMATION
- JACK UP LEG PENETRATION CHARTS
- LOCATION /WARRANTY APPROVALS
- CROSS TRACK LIMITS FOR DEPLOYING AND RECOVERY OF MOORINGS

Cross tracking limits shall define the allowable vessel deviation off the intended mooring line, considering the distance from the MOU and amount of mooring deployed.

A “Traffic Light” alert system is recommended:

### Example:

ZONE	LIMITS	ACTION
Green	> 150m each side of intended track.	No action required
Amber	Green zone + 150m on each side of the intended track.	Vessel instructed to regain line, assistance from rig provided if required. Review environmental forces being experienced
Red	Out with green or amber zones.	Mooring operation suspended until Vessel regains amber zone and movement toward intended track confirmed. PIC notified