1 OIM / MASTER'S AUTHORITY

1.1 OIM / Master Statement of Authority

The OIM is the senior onboard manager, who reports directly to the shore-based Rig Manager. It is his role to manage the overall operation and administration of the installation. The OIM will ensure contractual obligations to our client are met and day-to-day operations are carried out in accordance with best industry standards as well as the client's and Rig Manager's instructions. The OIM is responsible for interface with Transocean shore based management and the onboard client representative during an emergency.

The Master is responsible for DP station keeping, safe navigation and collision avoidance, general safety and pollution prevention, Installation stability, regulatory compliance, ISM/MODU Code compliance, implementation of emergency response training and all marine operations issues.

Under Section 14.8 of the MODU Code, the Company designates the Master as "Person in Charge" during an emergency as specified on the Station Bill. During an emergency the "Person in Charge" determines from available situation reports, written procedures, acceptable safe working practices and advice from the OIM and onboard management team if there is a threat to personnel, the installation or the environment, then coordinates the appropriate response action.

A "Controlled Well" is not an "emergency" event within the scope of this paragraph.

Reference: Section 4, subsection 3

1 OPERATING GUIDELINES

1.1 Masters Standing Orders

The Master of every Transocean self propelled installation will issue written instructions on the conduct of a navigational watch to be followed by all relevant persons at all times. A copy of these standing orders will be placed in the front of the Masters Standing Order Book, and they will be endorsed by all masters and signed off as read by all watch keeping personnel.

The Master may use the standing order book at his discretion to leave specific instructions with the duty watch keeper during periods of his absence from the Navigational Bridge. These instructions will be signed off as read by the duty watchkeeper.

In addition the OIM or person in charge of all non self propelled installations should issue similar standing orders to be followed by the control room or bridge personnel during both routine and non routine activities, i.e. the use of collision lights and fog horns in reduced visibility, use of radar for anti collision, and orders covering standing watch keeping procedures when the installation is under towage.

1.2 Navigational Standards

All Transocean installations will be navigated in accordance with the highest marine professional standards, by competent and suitably licensed Marine Personnel.

In the absence of Flag State navigational standards, USCG or British Admiralty standards should be used with procedures and formalities as outlined by the Nautical Institute or equivalent professional maritime body.

At all times a suitable Navigational library and chart folio will be maintained to allow the installation to be navigated to the nearest port of refuge or safe haven in the event of any emergency. All relevant documentation effecting this eventuality must be kept up to date. Chart corrections will be made using information from either USA or British Admiralty or Coastal State Notice to Mariners and/or other similar information.

When arriving into port the Latest Notice of Mariners from that country on shall be onboard.

1.3 References

All IMO documents required by the Flag and Coastal States must be on board. In the absence of Flag State requirements, it shall be a Transocean requirement that the following publications be utilized as a guide to safe navigation, protection of the environment, and the practice of good seamanship. The list of IMO documents below is limited and may not satisfy Flag / Coastal State requirements.

- IMO - International Convention for the Safety of Life at Sea (2001 consolidated edition) with latest ammendments
- IMO - MARPOL 73/78 (consolidated edition 1997) with latest ammendments.
- IMO - International Regulations for Preventing Collisions at Sea, 1972 (1990 edition)
- IMO - Ship's Routing (sixth edition 1991) & Amendments (1993 Ed)
- International Conventions on Standards of Training, certification and watchkeeping (1995 edition.)
- ICS - Bridge Procedures Guide (3rd edition 1998)
- Nautical Institute - Bridge Team Management (1993 edition)
- Nautical Institute - Passage Planning 1994
- Nautical Institute - Bridge Watchkeeping 1994
- Nautical Institute - The Master's Role in Collecting Evidence (1997 edition)
- American Merchant Seaman Manual
- Merchant Marine Officers Guide
- Weather for Mariners
- A Mariners Guide to Radio Facsimile Weather Charts
- Pilot Service, Vessel Trafic Service and Port Operations
- American Practical Navigator Vol. 1&2
- The Mariners Handbook
- Peril at Sea and Salvage
- Pirates and Armed robbers (A Master's Guide Line)
- Guide to Port Entry.

1.4 Third Party Relationships

Person in Charge

At all times Transocean will appoint a person to be in charge of their Installations. This person may be the position of OIM or Master dependant upon the type of unit and current operational mode. The person in charge will carry the responsibility for the safety of the installation and persons onboard in accordance with Section 14.8 of the IMO MODU Code.

Tow Master

When a non-self propelled unit is being towed a third party Tow Master may be contracted by Transocean. The Tow Master is responsible for correct conduct of the move and deployment of mooring equipment. He may also direct all vessels and anchor movement.

The Transocean OIM / Master / Rig Mover shall always be responsible for the safety of the installation and the personel.

Pilot

Where the services of a local Pilot are employed for the transit of an area of navigational concern, i.e. controlled area, or inshore passage etc, the OIM, Master or Tow Master must at all times ensure that the Pilot's guidance is monitored.

Typically Pilots provide advice only and have no liability in the event of a navigational error leading to a subsequent incident or loss.

Warranty Surveyor

The Warranty Surveyor, if present, is appointed by Transocean to satisfy requirements of the Installation's insurance underwriters. The Warranty Surveyor is not the underwriter and does not represent insurers. The Warranty Surveyor's responsibility is to independently observe and report that move operations are being conducted within the unit's marine operations manual and generally acceptable marine practices. The Warranty Surveyor may offer expert advice on marine related issues similar to a Harbor Pilot's function. Use of Warranty Surveyors in an active role is discouraged in order to minimize risks associated with conflict of interest. The Warranty Surveyor has no direct authority or veto powers regarding Installation mobilization as ultimate responsibility for the Installation remains with the OIM and the Installation's owners at all times.

1 BRIDGE OPERATIONS

These requirements shall apply to all Drillships and Semi-submersibles that navigate independently (self - propelled) between locations and are certified by to do so by the respective Flag State and Class.

1.1 Bridge Manning

While self-propelled installations are underway, the Navigation Bridge or Control Bridge must at all times be manned by a licensed competent person, who must hold an unlimited license under the STCW 95 IMO convention. Bridge lookout requirements shall be in compliance with STCW 95 section VIII.

During any period of maneuvering or at any time when the Master is conning the installation (excluding DP watchkeeping) he will not under any circumstances be left alone on the bridge of the installation. Another competent deck officer shall always be in attendance during these close in navigation periods.

1.2 Bridge Team Management

The Master shall ensure that the personnel comprising the Bridge Team are fully aware of their responsibilities in that team to ensure the safe and effective operation of the installation at all times. The skills of the individual members must be suitably deployed during the various operations whether they be on passage, on location, or during abnormal conditions, i.e. emergency or heavy weather. It is expected that bridge personnel will work as a team under the control of the master at all times.

1.3 Bridge Lookout /Anti Collision Watch

At times whether on location or on passage or at anchor an efficient lookout must be kept to ensure the safety of the vessel from collision by another installation. In particular during times of reduced visibility the Master may decide to position additional lookouts due to the nature of the local area marine environment, traffic density etc. Both 3cm and 10 cm radars will be used at all times to ensure maximum warning of the close approach by any surface vessel.

At the onset of periods of reduced visibility the Master will be called to the bridge to assess the situation and decide upon the need for any additional lookouts or precautions. At all time the requirements of the International Rules for Collision Avoidance shall be met, without exception.

1.4 Open Water Navigation

The term "Open Water Navigation" describes any transit area more than 20 miles from the nearest landfall or area free of marine traffic control and any underwater obstructions. During such transits the installation's positions will be plotted on the chart at hourly intervals. An efficient lookout must be kept at all times. When approaching a landfall position all means available should be used to verify the vessel's position as accurately as is possible. If landmarks are not sighted when expected, close approach to the land should be made with the greatest caution. At a minimum Tidal Atlases and Pilot books for the area must be consulted.

Some Coastal States have a 50 mile security zone where notification is required 72 hours in advance before entry. Similarly some Coastal States claim a 200mile EEZ zone off shore. Coastal States claiming these zones can be found in the Admiralty Annual Notice to Mariners No 12. Coastal State mandatory reporting requirements, local laws effective in Territorial waters (such as flying the coastal states Flag), and navigational rules that supercede International rules are to be recognized as applicable.

1.5 Coastal Navigation

Coastal Navigation is to be considered when within 20 miles of the land or within an area of extensive underwater obstructions or areas of shallow water or when particular caution is required. Passage planning should avoid such areas indicated on the Charts including Submarine exercise areas, fish havens and historic wrecks.

Some Coastal States claim also a contiguous zone that gives them customs rights and can be identified in Notice of Mariners No. 12.

During such passages position fixes will be undertaken at frequent intervals typically not more than 20 minutes, and depending upon the prevailing environmental conditions as frequent as every 6 minutes. Close attention should be paid to the depth finder.

GPS and/or satellite navigation systems must not be relied upon to the exclusion of radar and visual fixes of position relative to the Coast. When navigating in oilfields or crowded locations the positions of installations nearby should be checked with the published information and charts but must not be relied upon for position fixing to the exclusion of GPS and other means. The officer of the watch should always be aware of the possibility of objects moving at very slow or unpredictable speeds and directions.

When entering an area of activity it is necessary to inform installations nearby of the vessel's intentions and to be informed of other movements which may be in conflict.

During inshore navigation, the following information must be available to the Bridge team who will familiarize themselves with it.

- Tidal Stream information
- Pilot Book information
- List of Lights
- Weather forecasts

1.6 Pilotage

When entering any restricted or advisory Pilotage area, all company installations will take a local Pilot whether it be mandatory or not.

It must at all times be noted that the maneuvering of the vessel is to the Pilots Advice and Master's orders, hence there is no liability upon the Pilot for any incident in an area of Pilotage. At all times the Bridge Team must monitor the Pilot's activities and plot the position of the vessel on a suitable scale chart. The Senior watchkeeper should be prepared to take over from the Pilot and call the Master if he is concerned at any of the Pilot's advice.

At all times during a Pilotage or any transit of narrow waters, the anchors should be available for deployment in an emergency.

All drafts must take into account the lowest point of the installations structure, and in the case of a vessel equipped with azimuthing thrusters, the draft will take into account this additional depth of water required.

During a period of Pilotage a Bell Book/Time Book will be maintained from the time the Pilot vessel approaches to the time the vessel is secured or has cleared any port area. This "Bell Book" will be used to note the time, date and description or names of suitable landmarks that the installation passes during it's passage. The document will form a legal record in the event of any incident during the passage.

1.7 Weather Reports

The Bridge team will at all times ensure there is a current weather report available and that it's contents have been taken into account in the planning of any activity.

All installations whether on location or on passage or off-contract must have access to a weather forecasting service to ensure they have access to a forecaster in the event of any critical activity coinciding with an abnormal weather condition.

1.8 Records and Reports

All records or Reports must carry the signature of a person in authority, i.e. OIM or Master. All such documents should be retained onboard for a period of at least 2 years.

1.9 Passage Planning

Before undertaking any transit between locations every installation will prepare a suitable passage plan, in accordance with the nautical Institute publication "Passage Planning" (also refer to section 3 subsection 7.4 "Voyage Plans"). Upon completion of the plan and prior to commencement of the voyage that plan will be submitted to the Rig Manager for final approval. The Rig Manager should approve any subsequent diversion from the plan.

1.10 Reporting in Transit

The Master of every installation in transit between locations will undertake a daily passage report to the Rig Manager.

The report will contain the following details:

- Time of Departure from location
- Current position (Latitude & Longitude)
- Average speed for the day
- General average speed
- Fuel consumed last 24 Hours
- Total fuel consumed to date
- ETA next location and identity of next location.
- Any Navigational Equipment malfunction
- Any propulsion equipment malfunction
- Any power generation equipment malfunction
- Anticipated weather for next 24 hours.
- Any urgent requirements.

1.11 Weather Routing

Any installation when undertaking an international voyage will contract a Weather routing service which will ensure the installation is able to plan the voyage around any local weather disturbances. The frequency of the information transmission will be at the Master's/OIM's discretion but under no circumstances at intervals of more than 48 hours.

1.12 AMVER

All Transocean installations will engage in the voluntary AMVER reporting scheme, which is designed to enhance the safety of any installation upon the high seas. It is the responsibility of the Master/OIM to ensure that regular reports are submitted to the scheme.

Some Coastal States such as Australia have reporting systems such as AUSREP and REEFREP. In some cases participation in Coastal State systems is mandatory.

1.13 Bunker/Fuel Reserves

It is critical that voyage planning takes into account a contingency fuel reserve.

Installations engaged upon voyages of 1 week should allow for a reserve of 3 days fuel. On long international voyages an additional reserve of 5 days fuel is the minimum amount acceptable for contingencies. This figure should be usable fuel and not total fuel remaining in the bunker tanks. A larger fuel contingency may be necessary in view of voyage planning and time of year.

1.14 Near Hit Report

In the event of any Transocean installation being involved in a near hit or close approach situation with another vessel the Master will complete a full report on the circumstances and forwarded that report to the Rig Manager **(Refer to HSE Manual, HQS-HSE-001, Section 4)**. The report must contain a factual account of the incident, together with the name of the other vessel involved, Port of Registry, owners and if possible name of captain.

1.15 Maneuvering Card

Every self-propelled installation will have a "Bridge Maneuvering Card" immediately available in accordance with the IMO standard giving pictorial information as to the

maneuverability of the installation, and the speeds attainable at various power or pitch settings.

1 OFFICIAL LOG BOOKS

On all Transocean installations the OIM will be responsible for the maintenance of the official logbooks, except such installations where there is a Transocean appointed Master onboard. In this case it is part of the Masters responsibility under Flag State and statutory requirements to oversee the suitable entries in those logbooks and reports.

1.1 Marine or Deck Log Book

All installations will maintain a Bridge logbook in which, as a minimum, records of the installation's course, speed, fuel consumption and environmental details will be recorded at a minimum of every 6 hours. In addition details of the daily stability status, deck loads, vessel draft, and various consumables will also be recorded. The details of any daily marine operations will also be recorded. In addition, details of emergency exercises will be recorded. Visits by Class surveyors or P&I club officials must also be noted.

The daily sheet will be signed by both the Master and Chief Officer or OIM.

1.2 Flag State Official Log

The Master will maintain the Flag State Official Log book at all times. It will be used to record all details of Master's/OIM's inspections, Personnel details, and any details required by the Flag State. The book will be kept up-to-date and ready for inspection by any Flag or Coastal state representative.

1.3 Oil Record Book (MODUs)

This document (normally titled Oil Record Book Part 1) will be maintained up to date at all times. It is the responsibility of the Master/OIM to ensure the accuracy of the contents.

1.4 Oil Record Book (FPSO's)

This document (normally titled Oil Record Book Part 2) will be maintained up to date at all times. It is the responsibility of the Master to ensure the accuracy of the contents.

1.5 GMDSS Log Book (floating installations)

Unless the Flag State Administration provides a GMDSS logbook, the Transocean standard shall be either the USA or British (MSA) logbook.

The Master/OIM will ensure that the logbook is completed as per instructions and that all the designated daily, weekly and monthly checks are completed. Emergency Transmissions, storm warnings must be logged and a hard copy retained on file. Unless the installation is UK registered, the duplicate page facility is not required.

1.6 Machinery Space Log

A suitable Machinery Log should be used on all installations irrespective of the degree of automation on onboard. The log should be used to confirm equipment and plant status at minimum intervals of 12 hours. The duty watchstander and Chief Engineer or Maintenance Supervisor should formally sign the document.

1.7 Chart Correction Log (self propelled installations)

A log indicating the status of the navigational charts corrections will be maintained by the senior licensed bridge watchkeeper.

1 OPERATIONS WITH SUPPORT VESSELS

1.1 Supply Vessels

All vessels approaching a Transocean installation should advise their ETA at least 1 hour before arrival and may require the following information.

- Installation Heading and anchor pattern
- Weather information
- Name of Standby Vessel
- Installation operations (ROV ops., overside work, flaring etc.)
- Control room and crane VHF working channels
- Whether the supply vessel will be worked on arrival or not.

The following points should be taken into consideration when planning supply vessel operations:

- The type of load; heavy lifts; dangerous cargo
- Any requirement for a particular order of loading / offloading
- Operating limits and weather conditions

Time limitations and rest periods may apply. If supply vessels must operate along side the installation for extended periods, Master/OIM should confirm that the supply vessel has sufficient watch keeping officers capable of maneuvering the vessel.

Before any supply vessel closes within the 500-meter zone the status of the following must be confirmed and defects reported to the Transocean Master/OIM:

- All propulsion and maneuvering control equipment
- Internal and external communication equipment
- Cargo handling equipment.

In marginal conditions a supply vessel should be asked to approach to a stand-off position at least one ships length from the Transocean installation to assess the conditions and the vessel's ability to carry out cargo operations.

The following points should be taken into consideration before commencing any supply vessel operations. In marginal weather conditions it is imperative for the safety of both the supply vessel and Transocean installation that the items below are complied with:

- Visibility should be sufficient to allow the supply vessel Master a clear view of the Installation throughout the cargo operation.

- Wind and current direction. Operations should be carried out down wind and down current of the Installation whenever possible. This is to minimize the risk of contact in the event of a failure in the supply vessel propulsion or steering. An exception to this would be essential work on a potential shallow gas operation, when the vessel should be kept upwind.

- The station keeping ability of the vessel including the type and power of the propulsion and the experience of the personnel.

- The nature of the cargo and the expected duration of the operation.

The Master of a supply vessel always retains the right to refuse to come alongside or to cease operations and move clear of the Installation on the grounds of the safety of the vessel and its crew.

Once inside the 500-meter safety zone any change in the operational status of the vessel equipment must be reported to the installation and a decision taken to continue or abort the cargo operation.

Should the vessel or any member of the crew be involved in an incident/accident whilst inside the 500-meter zone it must be reported to the unit Master/OIM.

Supply vessels are prohibited from anchoring within the 500-meter zone of any Transocean installation unless under exceptional circumstances and then only with the express permission of the Transocean Master/OIM.

Any supply vessel losing an anchor, piece of cargo or equipment over the side within the 500-meter zone must report this loss to the installation Master/OIM.

1.2 Supply Vessels in DP Mode Operation

All supply vessels operating Dynamically Positioned operating in or near the 500-meter zone of a Transocean installation should be Class2 rated.

Class 2 basically means that the DP control system is a fully redundant duplex system.

The vessel should comply with the IMCA publications, M103 "Guidelines for the Design and Operation of DP Vessels", third party audited to an approved standard

and confirmed acceptable for close approach DP operations by the Master with support from the Transocean DP Marine Superintendent and Rig Manager as necessary.

For safety reasons it is not acceptable for a DP supply vessel using DP only to work on the windward side of a Transocean Installation closer than 20 meters without a risk assessment.

DP supply vessels should not approach a Trtansocean Installation when flowing a well.

The use of DP during actual cargo transfer operations is only acceptable with the express permission of the Master/OIM. Such permission will only be given provided it can be verified that the DP Supply vessel conforms to the highest standard of DP operational criteria and has a verifiable DP management system in place.

Information regarding the capabilities of the vessel and the state of readiness of her equipment will be confirmed to the Master/OIM of the Transocean installation before operations commence and the installation should pass similar information to the supply vessel.

In weather conditions nearing DP supply vessel DP station keeping capabilities, the Master/OIM of a Transocean installation should receive confirmation there will be 2 trained DP operators on the bridge at all times the supply vessel is operating on DP within the 500-meter zone.

1.3 Seismic Vessels

The presence of a seismic vessel is normally coordinated through the client. The close approach of a seismic vessel to any Transocean installation will impact both upon drilling and DP operations. Seismic activity will generate subsurface sound waves that will impinge upon both acoustic positioning systems and possibly critical well operations, i.e. logging perforation.

1.4 Standby Vessels

Every Transocean installation that has an attendant Standby Vessel must develop a suitable working relationship with that vessel to enhance the safety of the Transocean personnel. In such activities the Standby Vessel must be fully aware of the day- to-day operations and status of the Transocean installation and be familiar with the installation's Emergency procedures.

The main functions of standby vessels are:

- Act as a place of safety
- Rescue people from the water
- Provide medical aid for rescued people
- Monitor the installation's safety zone for anti-collision
- Provide on scene command in accordance with the installation's Emergency Response Plan
- Monitor the performance of the installation's navigation lights & fog signals
- In normal operations the standby vessel will remain outside the 500-meter zone in order to provide a speedy response to any incident that may take place onboard the installation.

Whenever the vessel is required to perform close standby duties the vessel must confirm to the installation that it is fully functional in all respects to carry out the required duties and that all rescue equipment is ready for use.

1.5 Operations with Other DP vessels

Only DP class 2 vessels will be accepted by Transocean for close approach operations within the 500-meter zone of a Transocean installation.

All DP vessels working within 500-meters of a Transocean installation will have to be approved for operation by the Transocean DP Marine Superintendent who will require suitable documentation from the contractor to verify the suitability of that vessel. In general the DP vessel will be require to comply with the IMO guidelines and the various standards issued by the International Marine Contractors Association (IMCA), which will identify both equipment and operational standards and levels of personnel competency.

Approved DP vessels will at all times maintain a minimum close approach to the Transocean installation of 20 meters.

2 MULTIPLE VESSEL ACTIVITIES INSIDE 500 METER SAFETY ZONE

2.1 APPLICABILITY (Dynamic Positioned, Moored and Self Elevating units)

This section is not applicable to routine supply vessel, anchor handling or standby vessel activities.

This section is applicable to all multiple activities within an Installations 500 metre safety zone and within an Installation's anchor pattern.

2.2 Purpose

The purpose of this section is to provide guidance regarding multiple vessel marine activity within an Installations 500 metre Safety Zone.

2.3 Risk assessment

Simultaneous vessel activities are subject to a risk assessment to insure operations are conducted safely and properly co-ordinated.

2.4 Permit to work

To minimise risk to the Installation and the Vessel(s) involved it is recommended operations be conducted under the Company's Permit to Work system. No vessel shall enter the safety zone unless it is fully operational.

The OIM has the authority to request vessels to leave the 500 safety zone at any time. Unless agreed by onshore management no vessel shall approach an Installation within 50 meters.

2.5 Information transfer

2.5.1 Transocean to Vessel(s)

Transocean Installations shall pass on the following information to the vessel prior to vessel(s) entering the Installation's 500 metre safety zone:

- The operation(s) taking place on the installation and those planned
- Any hazardous well features e.g. H2S, HPHT, or other relevant information
- Any Diving or ROV operations underway or planned
- The working VHF channel
- Warning if any acoustic logging programme is taking place or planned
- Status of Installations mooring system (if applicable) including:
    - Rigs anchor pattern (bearings and distances)
    - Catenary and touch down points
    - Anchor jewellery

- Any propulsion systems active
- Standby Vessel name
- Emergency Alarms signals
- Acoustic transponder channels in use

2.5.2 Vessel to Transocean Installation

Vessel(s) shall pass the following information to Transocean Installations prior to entering the Installation's 500 metre safety zone:

- Method of maintaining station
- Back up system in event of failure of (1)
- Functional checks which have been completed

2.5.3 DP Vessels to Transocean Installation

When DP support vessels (ie pipe lay vessels, well intervention vessels, construction vessels, etc) operations are planned within the 500 meter safety zone, the OIM of the Installation shall receive the DP operational details and contingency procedures of the specific vessel(s) including the most recent DP trial results. This information will provide the basis of a HAZOP risk assessment prior to commencement of operations.

The OIM may refuse all or part of support vessel DP operations and or contingency procedures and defer to Regional / District Management.

2.6 Guidelines for vessel activities

When vessel(s) are planned to be operating within an Installation's 500 metre safety zone the following guidelines are recommended:

2.6.1 Risk Assessment

Conduct a risk assessment.

- The level of assessment shall be dependent upon the complexity of the operations / level of risk. The assessment may take the form of an onshore HAZOP.

- A risk assessment of conventionally moored vessels should include allowable excursion limits in the event of a mooring line failure of either vessel so to avoid

the risk of collision. A minimum safe clearance distance of 15m in the event of line failure is recommended.

- Clear guidance shall be given on limiting weather conditions for continuing simultaneous operations. Procedures to obtain suitable stand-off positions should be established if the limiting weather criteria is exceeded.

- If an onshore HAZOP is conducted the Installation shall provide input (preferably by attendance) prior to the HAZOP being signed off by interested parties, e.g. the vessel owners, Clients and Rig Manager.

- All parties to ensure methods of control and communications are clearly defined.

2.6.2 Permit to Work

To avoid conflict of operations, it is recommended a Transocean Permit to Work for vessel(s) activities be issued.

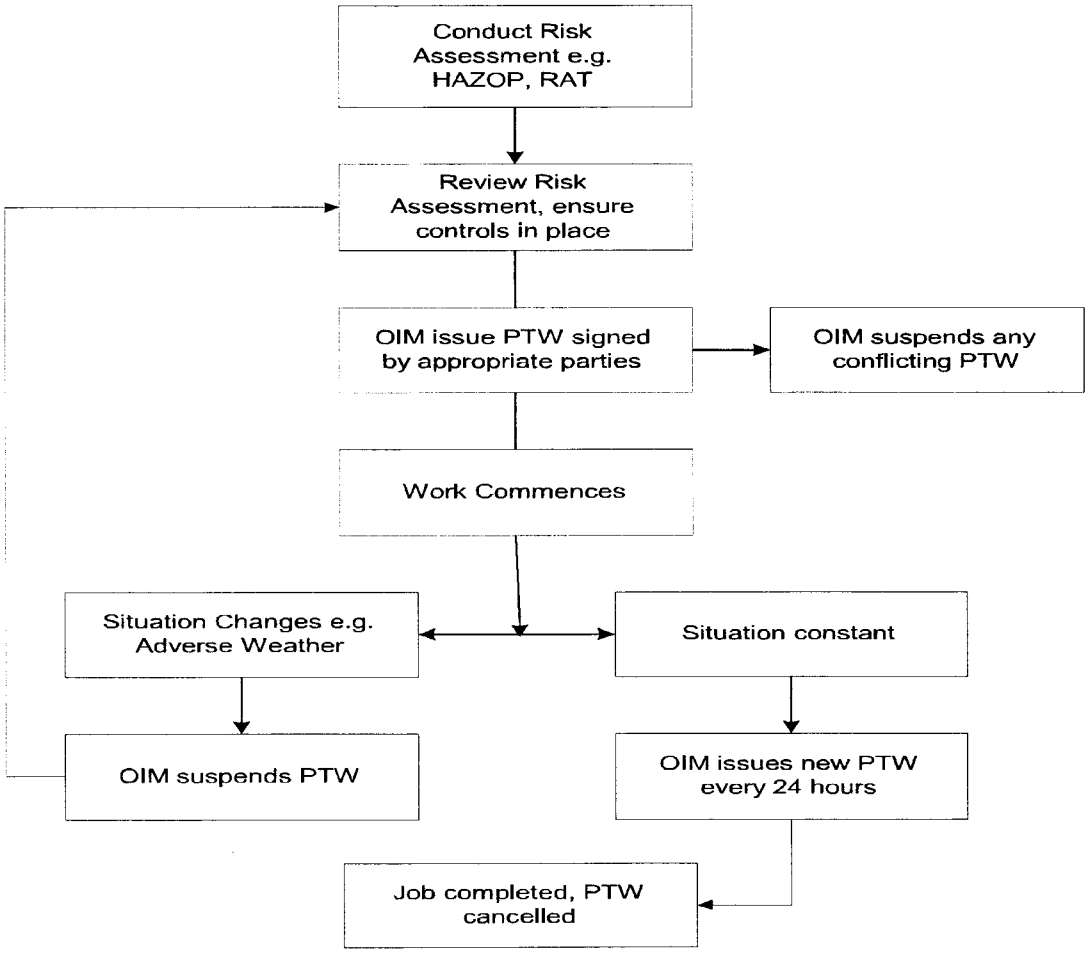
Signitures are necessary due to possible legal conflict in case of collisions / accidents.
The following signatures are recommended on the Permit to Work :

- The Offshore Installation Manager (OIM)
- The Client's Representative
- The Barge Supervisor – (Responsible Person)
- The Client's Marine Advisor – (if applicable)
- The Ship's Master
- ROV / Diving Superintendent – (if applicable)

A copy of the completed PTW shall be faxed or otherwise delivered to the ships Master for his signature.

If it is impossible to get actual signatures between Masters of adjacent vessels and the OIM, **verbal confirmation** may be used and the Work Permit endorsed accordingly by the Transocean OIM. This should be backed up by an official entry in the Installation's log book confirming the intent of the understanding. The Master of the adjacent vessel should be asked to make a similar entry into his vessel's log book.

MULTIPLE VESSEL ACTIVITY FLOW CHART



1 EMERGENCY PREPAREDNESS

1.1 Mooring at a Non-Drilling Location

Any Transocean installation proceeding to a non-operational location, i.e. stand-down/stacking area must ensure that the proposed location is indeed suitable. In the case of a port location or alongside a jetty or wharf the suitability of the mooring facilities should be confirmed by accredited personnel, and if necessary agreed with the vessel's underwriters.

1.2 Minimum Under-Keel Clearance

When verifying under-keel clearances Masters/OIMs must always take into account the localized effects of any areas of fresh water, or in the event of a transit in a narrow channel the effects of "squat".

The term "underkeel" refers to the lowest part of the installation i.e. the underside of the azimuth thruster.

Typically for large installations with azimuth thruster a minimum underkeel clearance of 5 meters is acceptable. This will depend upon the nature of the bottom and anticipated usage of the thruster, and the possible ingress of sand into the thruster bearings, cooling water pumps, etc.

In the case of a dead ship approach into shallow waters particular attention shall be paid to route planning and equipment operations when the underkeel clearance is less than 3 meters (10 feet).

1.3 Severe Weather

If severe weather is forecasted every /OIMMaster must ensure that the installation is suitably prepared with particular reference to the watertight integrity and safety of personnel.

Typically winds in excess of 60 Knots should be deemed to be excessive and may threaten the safe movement of personnel on exposed decks.

For Self-elevating Installations afloat, typically when 9 to 10second plus period swells in combination with 3m+ sea states are forecast, preparations shall be made for increased motions .

The OIM/Master should monitor the approach of the weather system and use the onboard equipment to assist in this matter. In addition he should also contact the forecasting bureau direct to obtain the latest information on the approaching weather.

In particular, decisions will have to be made regarding:

- Cessation of drilling Operations
- Evacuation of non essential personnel
- Verifying installation stability
- Deballasting to survival draft
- Adjusting any mooring systems
- Securing deck loads
- Ensuring all internal and external watertight closures are secure.
- Limiting access to external decks to personnel
- Rigging safety lines where necessary

Every Transocean installation should develop suitable contingency procedures to cover such a situation and determine a realistic time frame for the securing of the installation to a suitable status and the evacuation of non-essential personnel **(Refer to installation specific Emergency Response/Contingency Manual).**

It is essential that an evacuation procedure is developed and maintained in line with the local area resources.

Upon the passing of severe weather the OIM/Master must ensure a suitable damage inspection is completed to verify the structural status.

1.4 Actions on Loss of Power

Every Transocean installation will develop specific procedures to cover the activities that will be initiated upon the total loss of power. Such procedures will cover activities to secure the installation and bring it back under-control at the earliest opportunity. Such a procedure should be exercised on a frequent basis to ensure all personnel are familiar with their duties.

It is likely that Dynamically Positioned self propelled vessels will be tested by the client for a black out recovery and any lessons learnt from such an exercise must be appended to the original procedure.

1.5 Towing Equipment

The Master/OIM must ensure they are fully familiar with the rigging, operation and maintenance of the emergency towing system. The system must be regularly checked and it is critical that the surrounding deck area is kept clear of any obstructions that will impair deployment.

Dedicated Emergency Towage equipment should not be used for routine harbor towage operations. Where conventional towage pendants are used as part of an emergency towage package their condition must be regularly checked to ensure they have not been subjected to any friction sources and possible degradation of strength.

1.6 Salvage

Where the Master/OIM deems it necessary to engage the assistance of a Salvor, he should inform Transocean Management before the agreement is entered into. However, if this is not possible the Master / OIM has the authority to enter into a Lloyds Open Form agreement which can be made verbally by VHF or other means and is binding, subject to arbitration. No other form of agreement is authorized without reference to Management.

This contract should not be used in any circumstance where there is sufficient time for Management to negotiate a towage contract; e.g. vessel adrift in a safe condition and in no danger.

An entry must be made in the Deck Log, Radio Log or other Official Document (IADC) of the Time and Position, Condition of the installation and Perils when the agreement is entered into. This entry must also contain the name of the Transocean representative (Master / OIM) making the agreement, the name of the Salvage Vessel, Owners and Master. These details should be transmitted to the Transocean Management as soon as is practical by whatever means available. All additional relevant information should be meticulously logged to assist in making practical decisions and in the arbitration."

Lloyd's Open Form (summarized) Standard Form of Salvage Agreement.
(NO CURE - NO PAY)

This is an agreement between the Master of the Distressed Vessel on behalf of his Owners and the Master of a vessel capable of rendering a salvage service on behalf of his Owners (the Contractor). Both Masters have the authority to make this contract and once done it is legally binding. It may be oral (by Radio) or written or made by any available means (email, fax, etc.)

The mention of Lloyd's open form implies all the clauses apply. The essence of the contract is NO CURE - NO PAY. The contract is about Property only and does not include LIFE which must be saved at all cost except the jeopardy of other lives. The contract is concerned with saving the Distressed Vessel and all the valuable property aboard whoever the owners may be. The Master of the Distressed Vessel should leave blank the VALUE in paragraph 1 as this will be settled in arbitration.

The Contractor may make reasonable use of any equipment on board the Distressed Vessel to aid in the Salvage. It is in the Owner's (Master's) interest to help the Contractor to salve the vessel as this effort will be taken into account at arbitration as it reduces the general peril. Likewise any delays or non-cooperation caused by the distressed vessel's Master or Owner may add to the peril and so to the award. Unwarranted Delays caused by the Salvor to increase the peril will count heavily against the award and should be noted by the Master of the Distressed Vessel.

There is an allowance for the partial salvage of the vessel, all valuable items saved to be taken into account at arbitration. Other clauses deal with the general administration of the final award, objections, arbitration, etc.

Lloyd's open form is generally used:

- Before connecting a salvage tug (not reconnecting a contracted tug);
- When a vessel is in danger of stranding due to insufficient or complete loss of power;
- When a vesssel has had a fire and is in danger of foundering or needs assistance to control a fire;
- When a vessel needs to be pumped to stay afloat and is unable to pump out using its own equipment.

This contract does not generally apply to tugs contracted to the same client or tugs already contracted to Transocean for any purpose where special clauses already apply to salvage or redeployment. This contract does not apply to vessels under the same management (Transocean).

1.7 Responding to a Distress

Upon receiving a signal from any source that persons are in distress at sea, the Master of a vessel at sea, that is in a position to provide assistance, is bound to proceed with all speed to their assistance. If possible the Master shall inform them or the search and rescue service the vessel is doing so. If the Master decides that his

vessel is unable to render reasonable assistance he must enter the decision and reasons in the log book and inform Rescue Services accordingly. If several vessels answer a call, the Distressed Vessel may requisition the most appropriate vessels answering and release others from their duty to assist. Such release must be noted in the Log Book with the time and position.

The Master of a drilling rig may be able to offer Safe Haven, Helicopter Landing and Medical Facilties even if moving the vessel to the scene is unreasonable or impossible. This obligation is legal and binding by International convention on Salvage 1982, article 10 and article 98(1) of UN convention for the Law of the Sea, UNCOLS, 1982.

In the event of a Master deciding to respond to a distress, he must inform both the Rig Manager and Transocean DP Marine Superintendent.

In responding to a distress the Master will have to ensure that by undertaking such action he is not placing his own installation, and crew at an unacceptable level of risk.

1.8 Picking Up Survivors

When involved in international operations it is always possible that a Transocean installation may be involved in a distress operation and find itself in a position of having to receive survivors. In many cases this operation may be very straightforward and only involve a small number of personnel.

In some parts of the world there is a possibility that small boats laden with personnel looking for relocation in other countries may be involved and may deliberately place their vessel in a state of jeopardy to entice a larger vessel to their aid. In all cases Masters will have to respond to save life. The legitimacy of personnel in such a situation must be confirmed to the extent practical or possible. A close search of any items brought onboard should be made for any concealed arms, contraband etc. It is critical that in such a situation the Master must communicate the situation at the earliest opportunity to the Rig Manager. The Rig Manager is responsible for making further necessary contacts and notifications.

Upon picking up survivors, refugees, asylum seekers ("boat people") the installation, if underway self-propelled, may have to deviate to a suitable port to discharge these persons ashore.

1 INSTALLATION MOVE NOTIFICATION, APPROVALS, REPORTS

As part of Installation move preparations, Installation Managers are to provide the information outlined in this Section to Regional Management and Underwriters Warranty Surveyors for the purpose of planning, approving and reporting rig move operations.

2 NOTIFICATION

2.1 Advance Notification of Installation Movement (All Installations)

Notification shall be provided at least **72 hours** prior to a planned rig move. For "difficult" locations where Engineering analysis is necessary Technical information should be provided **as far in advance as practicable.** Example rig move notification forms are shown in Figures 2.1.1 and 2.1.2 for Non Self Propelled and Dynamic Positioned Installations respectively.

Coastal State Authorities should be notified a appropriate in the Region of operation.

2.2 Notification Format and Distribution

The following personnel are to be copied on all requests for location approvals

- Region Operations Manager
- Region Marine Support
- Risk Management, Houston
- Underwriters Warranty Surveyor (Self Elevating & Moored Installations)

3 APPROVALS

3.1 Location Approval

Site assessment is required for all drilling locations for ALL types of installations to insure the installation's suitability.

Not all locations require specific review and/or APPROVAL from Engineering however each location must be evaluated to insure minimum safety, operational and equipment standards are met.

Site assessment guidelines contained within this manual are as follows:

Section 3.8 – Self-elevating Installations – Site Assessment
Section 5 – Mooring Guidelines

3.2 Voyage Approval

Non-Self Propelled Installations shall obtain voyage plan approvals from a Transocean approved Underwriter's Warranty Surveyor for International voyages and Ocean tows exceeding 300 nautical miles.

All dry transport voyages shall obtain voyage approval from a Transocean approved Underwriter's Warranty Surveyor.

Surveyor recommendations shall be complied with including those voyages where a Surveyor is not present.

Transocean approved warranty houses by specific regions are shown in Figure 3.2.1.

Underwriters require Specific Approval for areas excluded by **"AMERICAN INSTITUTE TRADE WARRANTIES"** shown in Figure 3.2.2.

3.3 Installation Mover Approval (self elevating installations)

All rig move operations are to be conducted under full control of a Transocean authorized person. Typically this is the OIM or Barge Supervisor who is approved by the Underwriter's Warranty Surveyor (self-elevating installations) and Transocean Regional Management for the type of Installation being moved.

In cases where the assigned O.I.M. or Barge Supervisor is not "approved" for the type of installation being moved, a Transocean qualified rig mover or warranty surveyor should be in attendance.

In all cases the personnel requirements prescribed by the Installation's Minimum Manning Certificate shall be met.

4 VOYAGE PLANS (ALL INSTALLATIONS)

The Master / Tow Master shall prepare a voyage plan for each field move, ocean tow, dry-transport and self propelled voyage. All personnel involved in the transit to be briefed on the Voyage Plan.

The Voyage Plan shall include but not be limited to the following items as applicable:

- Routing, confirmed waypoints for the voyage
- Identified navigation dangers for the voyage
- Route charts and pilots
- Weather forecasting
- Historic weather data for the voyage and time of year
- Safe havens / shelter (contingency planning)
- Bunker ports
- Ballast water change out (Invasive species regulations)
- Medivac facilities along the route
- Propulsion output versus fuel consumption
- Fuel / lube oil safety margins
- Marine vessel support along the route (assist tugs etc)
- Communications
- Piracy
- Stowaways
- Damage control
- Salvage
- Tug selection and control
- Dry tow transport motion calculations
- Wet tow, maximum allowable motions
  (what to do when motions reach maximum, change course, etc.)

Towing equipment (main and emergency) to be inspected and any defects rectified.

As far as practicable, all transits shall be planned to avoid close proximity to land, other installations or any fixed object. Due regard shall be taken with regard to the water depths along the proposed route and any hazards to navigation. Allowance must be made for protrusions beneath the hull such as thrusters, spud cans, etc.

Stability and deck loads are to be within the limits defined in the Installation's marine operations manual.

Deck load items shall be suitably secured for transit. Movements of deck load shall be kept to a minimum during transit. Cranes shall be stowed and crane movements shall be authorised by the Barge Engineer or Chief Officer.

All navigational equipment (lights and shapes) including charts of the area of the transit shall be onboard and checked for operation.

The weather forecast provider shall be advised of the transit route to insure accurate forecasts.

References: Minimum Operating Standards (HQS-OPS-001),
Section 2 – MOU Operating Manual
Section 5 – Marine
Regional Managers Manual (HQS-OPS-003),
Section 7 – Indemnity

5 INSTALLATION MOVE REPORTS

5.1 Self Elevating Installations

Upon completion of each location move an Installation Move Report shall be completed and submitted to the distribution indicated in Section 2.2. Figure 5.1.1 illustrates an Installation Move Report for self elevating installations. This example report represents the minimum information to be recorded for each installation move.

5.2 Moored Semi Submersible / Tenders / Posted Barges

Upon completion of each location move an Installation Move Report shall be completed and submitted to the distribution indicated in Section 2.2. Figure 5.2.2 illustrates an Installation Move Report for moored semi-submersible installations. This example report represents the minimum information to be recorded for each installation move.

6 MARINE SUPPORT

Technical support is available through Transocean Engineering. Procedural and practical marine support and clarification is available through Houston Operations Support and the Regional Marine Operations Engineers located in and Paris and Singapore.

Figure 2.1.1 Rig Move Notification
Non Self Propelled Installations

Transocean SedcoForex

INSTALLATION MOVE NOTIFICATION
Non-Self Propelled Installations page 1 of 2
Rev 0, January 2002

Vessel Name: _____
Type of Unit: _____ (semi sub or drillship)
Region of Operation: _____ (Brazil, GOM, West Africa, etc.)
Estimated Move Date:

Person in Charge / Title _____ (OIM or Barge Supervisor)

Name of Operator: _____
New Location Name: _____
Coordinates: _____
Water Depth: _____

Name of Operator: _____
Departing Location Name: _____
Coordinates: _____
Water Depth: _____

Distance between Locations: _____

REA No.: _____

Marine Operations Information

1) Tug Boats

a) Number of Tug Boats 1 2 3 4

b) Names: 1 _____
2 _____
3 _____
4 _____

c) BHP of boats _____ / _____ / _____ / _____

d) Continuous Bollard Pull of Boats _____ / _____ / _____ / _____

e) Special Move or Mooring requirements? (describe) yes / no

Transocean SedcoForex

INSTALLATION MOVE
Non-Self Propelled Installations
Rev 0, January 2002

Site Specific Information (All Installations) (if yes, attach or advise where information is located)

1) Environmental Data
- a) Has the operator supplied environment — yes / no

2) Site Survey Data
- a) Has the operator supplied site survey — yes / no
- b) Bathymetry — yes / no
- b) Site clearance / side scan sonar survey — yes / no
- c) Sub- bottom profiling & shallow gas — yes / no
- d) Drop cores, grab samples — yes / no
- e) other, list

Self Elevating Installations

3) Geotechnical Data
- a) Has the operator supplied Geotechnical — yes / no
- b) Borehole data — yes / no
- c) Source of borehole data
- d) Is coring proposed from the unit prior to pre-load — yes / no
- e) other?

Semi-Submersibles / Moored Tenders

4) Mooring Information
- a) Is the unit moored conventionally? — yes / no
- b) Is the unit moored on pre-set — yes / no
- c) Has a site specific mooring and riser analysis been — yes / no
- d) Is mooring within the scope of the approved Operations — yes / no
- e) Anchor scope?
- f) Pretension / hold time?

Posted Barges

5) Additional Information
- a) Inland Mobilization? — yes / no
- b) Coastal Mobilization? — yes / no
- c) Mast position — raised / lowered
- d) Site bottom special preparations?
- e) Special situations or support barge

Figure 2.1.2 Rig Move Notification
Dynamic Positioned Installations

Transocean SedcoForex

INSTALLATION MOVE NOTIFICATION
Dynamic Positioned Installation page 1 of 2
Rev 0, January 2002

Vessel Name: _____
Type of Unit: _____ (semi sub or drillship)
Region of Operation: _____ (Brazil, GOM, West Africa, etc.)
Estimated Move Date: _____

Name of Operator: _____
New Location Name: _____
Coordinates: _____

Name of Operator: _____
Departing Location Name: _____
Coordinates: _____
Distance between Locations: _____

REA No.: _____

1) Site/Well Specific Information

a) Estimated water depth	_____ m	0 ft
b) Maximum required mud weight	_____ ppg	
c) Duration of well	_____ days	
d) Estimated spud date	_____	
e) Maximum expected shut-in pressure	_____ psi	

2) Environmental Data
a) Has the operator supplied environment data? _____
(if yes, attach with this form)

3) Riser & Tensioners Available for Well

Joint Type	*Description*	*No. Available*
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
	Total:	0

Comments on preferred running order based on deck arrangement:

Tensioners:
Number of Tensioners online _____
Number down for repair _____
Is there a restriction on maximum operating pressure? _____
if yes, what is max % allowed? _____

Transocean SedcoForex

INSTALLATION MOVE NOTIFICATION
Dynamic Positioned Installation
Rev 0, January 2002

4) Operator Supplied Equipment/Information

a) Type of Well head _____

Bending capacity at max pressure _____ kip-ft
Bending capacity at 0 psi pressure _____ kip-ft
What is torque resistance (max kip-ft allowed)? _____ kip-ft
is the torque resistance a function of BOP set down weight? _____

b) Surface Structural Casing (describe casing to ~150 ft BML)

	From [ft BML]	*To* [ft BML]	*OD* [in]	*Wall* [in]	*Yield* [ksi]	*BM Rating* [kip-ft]
Casing 1						
Casing 2						

c) Are soil properties provided for the location? _____
(if yes, please attach with form)

5) Level of Analysis Requested (1 - 5) _____
[place cursor here for description of analysis levels]-----------> x

6) Special Requirements for Well

Is a DST planned for the well? _____
Is a subsea tree in the spaceout? _____
if yes, height = _____ ft air wt. = _____ kips
Any other comments or requirements (changing standard rig equipment, etc.):

7) Dynamic Positioning Information

List any down equipment that would affect the overall positioning performance of the rig:

Figure 3.2.1 Transocean Approved Warranty

Area of Operations	Rig Type	Warranty Surveyor
Australia	All	London Offshore Consultants Australia Pty PO Box 513 Perth, Western Australia Capt. John Cranswick Phone +61 (08) 9322 7943 or 9321 6676 Fax +61 (08) 9322 1543 E-mail loca@cocmac.it.net.au Falconer Bryan & Associates Pte Ltd
All	All	John Lebourhis & Associates Inc. 1505 Highway 6 South, Suite 120 Houston, TX 77077 Capt. John LeBourhis Phone +1 281 589 1999 Fax +1 281 589 8115 E-mail JLAserv@aol.com
All	All	Noble Denton & Associates
All	All	Matthews – Daniel Group

Figure 3.2.2. - AMERICAN INSTITUTE TRADE WARRANTIES

1. Warranted no port or place on the Eastern Coast of North America, its rivers or adjacent islands
   (a) north of 52 W. Long.
   (b) in the Gulf of St. Lawrence, its connecting waters and the St. Lawrence River, in the area bounded by lines drawn between Battle Harbour/Pistolet Bay; Cape Ray/Cape North; Port Hawkesbury/Port Mulgrave; and Baie Comeau/Matane, between December 21st and April 30th, both days inclusive.
   (c) west of Baie Comeau, but not West of Montreal, between December 1st and April 30th, both days inclusive.

2. Warranted no Great Lakes or St. Lawrence seaway or St. Lawrence River west of Montreal.

3. Warranted no port or place in Greenland or its adjacent waters.

4. Warranted no port or place on the Western Coast of North America, its rivers or adjacent island, north of 54 30' N. Lat. or west of 130 50' W. Long.; except the port of Ketchikan, Alaska, provided,
   (a) that a qualified pilot having knowledge of local waters be on duty while the Vessel is in waters north of 54 30' N. Lat. and east of 132 50' W. Long.' and
   (b) that the Vessel be equipped with operating Gyro Compass, Radio Direction Finder, Fathometer and Radar.

5. Warranted no Baltic sea (or adjacent waters east of 15 E. Long.);
   (a) north of a lone between Mo and Vaasa between November 15th and May 5th, both days inclusive.
   (b) east of a line between Vilpuri (Vyborg) and Narva between November 21st and May 5th, both days inclusive.
   (c) north of a line between Stockholm and Tallinn between December 15th and April 15th, both days inclusive.
   (d) east of 22 E. Long. and south of 59 N. Lat. between December 15th and April 15th, both days inclusive.

6. Warranted not north of 70 N. Lat. except when proceeding directly to or from any port or place in Norway or Kola Bay.

7. Warranted no Bering Sea, no East Asian waters north of 46 N. Lat. and no port or place in Siberia except Vladivostok and/or Nakhodka.

8. Warranted no Kerguelen or Croset Islands, nor water south of 50 S. Lat., except ports or places in Patagonia, Chile and Falkland Islands, but liberty is given to enter waters south of 50 S. Lat. if proceeding to or from ports or places not excluded by this warranty.

9. Warranted not to sail with Indian Coal as cargo:
   (a) between March 1st and June 30th, both days inclusive.
   (b) between July 1st and September 30th, both days inclusive, except to ports in Asia, not west of Aden nor east of or beyond Singapore.

CL.A210

AMENDMENTS:

American Institute Trading Warranties attached hereto, extended to allow operations/navigations along the east coast of North America and/or Newfoundland to not north of 60 deg. North and not west of 170 deg.

west, and along the west coast of North America to not north of 60 deg. north and not west of 70 deg. west. Such operations/ navigations outside of these navigating limits is subject to the approval of Underwriters' surveyor and additional premium payable if and as required by underwriters.

Extended to allow operations/navigations in the Barents, subject to underwriters' prior advice and terms to be agreed.

Figure 5.2.1 – Installation Move Report
Self Elevating Installations

Transocean SedcoForex

INSTALLATION MOVE REPORT
Non-Self Propelled Installations page 1 of 3
Rev 0, January 2002

1. GENERAL INFORMATION

Vessel Name: _____ **Move Number:** _____
Installation Move Date: _____

Location Arriving: _____
Coordinates: Latitude: ____ degrees ____ minutes ____ seconds
Longitude: ____ degrees ____ minutes ____ seconds

Water Depth: Bow: ____ feet Stbd: ____ feet Port: ____ feet
Leg Penetration: Bow: ____ feet Stbd: ____ feet Port: ____ feet
Leg Reserve: (above upper guide) Bow: ____ feet Stbd: ____ feet Port: ____ feet
Heading: ____ degrees true
Air Gap: ____ feet
Distance and Bearing (Open Location): ____ feet/mtrs at bearing ____ degrees
Distances (Platform Location) ____ feet/mtrs port/stbd from center of well center

Departing Location Name: _____
Coordinates: Latitude: ____ degrees ____ minutes ____ seconds
Longitude: ____ degrees ____ minutes ____ seconds
Water Depth: ____ feet
Leg Penetration: Bow: ____ feet Stbd: ____ feet Port: ____ feet
Air Gap: ____ feet
Heading: ____ degrees true

REA No.: _____

2) Marine Operations Information

Tug Boats

Vessel Name	Owners	BHP	Bollard Pull	Function
	Total			

Special Move or Mooring requirements? (describe) ____ yes / no

3) Supervisory Personnel

Tow Master _____
Installation Manager _____
OIM _____
Barge Master _____
Chief Mechanic _____
Chief Electrician _____
Marine Warranty Surveyor _____

Company Representative _____ Operator _____
Supervisory 3rd Party _____ Company _____
_____ Company _____
_____ Company _____

Total Persons on Board during move _____

Transocean SedcoForex

INSTALLATION MOVE REPORT
Non-Self Propelled Installations
Rev 0, January 2002

4) Time Break Down

Total Time for Move: _____
from start lowering hull to hull at final airgap

Weather Forecast: Source: _____

Actual Weather Experienced:

Waiting on Weather:	_____	hours
Waiting on Daylight:	_____	hours
Time for Repairs:	_____	hours
Time for Other: (Platform shut down)	_____	hours
Time for Other:	_____	hours
Time for Tow: In field passage	_____	hours
Distance of Tow:	_____	
Average Speed	_____	

Method of Preload:

Time for Preload including static test: _____ hours

Location Approval: _____ hours

5) Stability Information

Spud Can Position During Move:	Bow: _____	feet	Stbd: _____	feet	Port: _____	
Observed Hull Draft:	Bow: _____	feet	Stbd: _____	feet	Port: _____	
Corresponding Displacement:	_____	kips				
Calculated Hull Draft:	Bow: _____	feet	Stbd: _____	feet	Port: _____	
Calculated Displacement:	_____	kips				
Load Line Draft:	_____	feet	Displacement _____	kips		
Displacement Margin:	_____	kips				
Difference in Actual vs Calc. Drafts:	_____	feet				
Reason:						
Afloat Variable Load:	_____	kips				
Allowable Afloat Variable Load:	_____	kips				
Variable Load margin:	_____	kips				
KG / VCG	_____	feet				
Free Surface Correction:	_____	feet				
Adjusted KG:	_____	feet				
Allowable KG - field transit 70kts:	_____	feet				
KG margin:	_____	feet				
LCG:	_____	feet				
TCG	_____	feet				
Trim:	_____	degrees				
Heel	_____	degrees				
Spud Cans Full or Empty?	Full / Empty					
Spud Can Dump Valves	Open / Closed					
Preload Required:	_____	kips				
Preload applied:	_____	kips				
Static Test:	_____	hours				

Transocean SedcoForex

INSTALLATION MOVE REPORT
Non-Self Propelled Installations
Rev 0, January 2002

6) Additional Sections on Separate Pages

6.1 Move Summary
6.2 Damage to Installation
6.3 Recommendations
6.4 Time Log
6.5 Attending Tug Inspection Reports
6.6 Stability Calculations Afloat and Preloading
6.7 Weather Reports
6.9 Other Revelant Details

Submit to the following:

Origional

1) Regional Operations Manager
2) Rig Manager
3) Rig Move File - Regional Office
4) Assigned Marine Warranty Surveyor

Figure 5.2.2 – Installation Move Report Moored Semi-Submersible Installations

Transocean SedcoForex

INSTALLATION MOVE REPORT
Moored Semi-submersible Installations page 1 of 3
Rev 0, January 2002

Vessel Name: _____ **Move Number:** _____
Installation Move Date: _____

1) GENERAL INFORMATION

Location Arriving: _____

Coordinates:
Latitude: _____ degrees _____ minutes _____ seconds
Longitude: _____ degrees _____ minutes _____ seconds

Water Depth: _____ feet
Seabed Data: _____
Mooring Arrangement: _____
Heading: _____ degrees true

Departing Location Name: _____

Coordinates:
Latitude: _____ degrees _____ minutes _____ seconds
Longitude: _____ degrees _____ minutes _____ seconds

Water Depth: _____ feet
Seabed Data: _____
Mooring Arrangement: _____
Heading: _____ degrees true

REA No.: _____

2) Marine Operations Information

Tug Boats

	Vessel Name	Owners	BHP	Bollard Pull	Function
1					
2					
3					
4					
		Total			

Consummables	Vsl 1 on	Vsl 1 off	Vsl 2 on	Vsl 2 off	Vsl 3 on	Vsl 3 off	Vsl 4 on	Vsl 4 off
Date & Time								
Fuel Oil								
Lube Oil								
Water								

Special Move or Mooring requirements? (describe) yes / no

Anchor Positioning Proposed (initial)

	Northing	Easting	Distance	Bearing	Test	Work
1						
2						
3						
4						
5						
6						
7						
8						

Anchor Positioning Achieved

	Northing	Easting	Distance	Bearing	Test	Work
1						
2						
3						
4						
5						
6						
7						
8						

Transocean SedcoForex

INSTALLATION MOVE REPORT
Moored Semi-submersible Installations page 3 of 3
Rev 0, January 2002

Vessel Name: _____ **Move Number:** _____
Installation Move Date: _____

Positioning Equipment Details
1 _____
2 _____
3 _____
4 _____
5 _____

3) Supervisory Personnel

Tow Master			
Marine Superintendent			
Rig Manager			
OIM			
Barge Master			
Ballast Control Operator			
Ballast Control Operator			
Company Representative		Operator	
Marine Warranty Surveyor		Company	
Surveyor / Technition		Company	
Surveyor / Technition		Company	
Total Persons on Board during move			

4) Move Summary

Weather Forecast: Source: _____

Actual Weather Experienced: Maximum recorded wind speed: _____ Maximum combined sea and swell: _____

Total Time for Move: _____
from pulling first anchor thru final test loads

	Time	Date
Commenced de-ballasting	_____ hours	_____
Completed de-ballasting	_____ hours	_____
Unit inspected for boyage preparation	_____ hours	_____
Certificate of Approval issued	_____ hours	_____
Commence retrieving anchors	_____ hours	_____
Completed retrieving anchors	_____ hours	_____
Towing vessel connected	_____ hours	_____
Commence Sea passage	_____ hours	_____
Completed Sea passage	_____ hours	_____
Distance covered	_____ hours	_____
Time Underway	_____ hours	_____
Average Speed	_____ hours	_____
Commenced running anchors	_____ hours	_____
Completed running anchors	_____ hours	_____
Total time to run anchors	_____ hours	_____
Disconnected towing Vessel	_____ hours	_____
Commence ballasting - W,O,W,	_____ hours	_____
Completed ballasting - W.O.W.	_____ hours	_____
Commence ballasting -	_____ hours	_____
Completed ballasting @ draft	_____ hours	_____
Commenced pretension anchors	_____ hours	_____
Completed pretension anchors	_____ hours	_____
Anchors slacked to work tension	_____ hours	_____
Distance & Bearing of target location	_____	_____

Transocean SedcoForex

INSTALLATION MOVE REPORT
Moored Semi-submersible Installations
Rev 0, January 2002

Vessel Name: _____ **Move Number:** _____
Installation Move Date: _____

5) Stability Information

Lightship including fixed variable loads	
Ballast	
Anchors & Chain	
Liquid Variable Load	
Dry Variable Load	
Total Displacement	
Calculated Draft	
Actual Draft	
Difference	
LCG	
TCG	
Max. Variable Load	
Actual Variable Load	
Variable Load Margin	
Allowable KG	
Free Surface Longitudinal	
Free Surface Transverse	
Correction	
Corrected KG	
KG margin	
Longitudinal GM	
Transverse GM	

6) Additional Sections on Separate Pages

6.1 Anchor Recovery Details
6.2 Anchor Running Details
6.3 Weather Operational Delays
6.4 Damage Reports
6.5 Stability Calculations
6.6 Weather Reports
6.7 Recommendations
6.9 Other Revelant Details

Submit to the following:

Origional
1) Regional Operations Manager
2) Rig Manager
3) Rig Move File - Regional Office
4) Assigned Marine Warranty Surveyor

7 STABILITY

All Transocean Installations shall have a computer program for the calculation of stability. Amendments to stability software shall to be made under supervision of Transocean Engineering via the REA system (Engineering work scope can be limited to a verification for a software bought outside or Engineering can proceed to the modification for in-house software). The use of Excel spreadsheet is not recommended unless no other option is available.

Stability calculations should be carried out at least weekly using the computer program and a secondary system check using another method should be completed at regular intervals not exceeding two weeks.

A comprehensive verification of all variable weights must be completed daily to facilitate the completion of accurate stability calculations.

A comparison of the mean draft obtained using the calculated displacement and the observed mean draft should be made daily when sea state conditions allow.

The Installation's marine operations manual shall be consulted and Installation stability maintained within the constraints of that manual so the installation is at all times maintained within the approved criteria.

All monohulls Installations shall ensure vessel is loaded such that longitudinal stresses are kept within the limiting criteria.

When a major weight change is programmed e.g. the arrival of a casing load- out, a pre-load stability calculation must be completed and a ballast / draft change plan drawn up to ensure the installation's stability margin remains within prescribed limits. A torsion or stress calculation should also be completed.

All Installations should be kept with a minimum number of slack tanks and near even keel. Contingency plans shall be in place to bring an Installation to survival draft (where applicable) when environmental or operating conditions dictate.

Immediately prior to drydocking all tanks should be sounded and the locations of variable load recorded. The records shall be kept throughout the drydock period so that tanks and variable loads are in the same condition when the vessel is refloated. Verify that all tank bottom drain plugs have been securely replaced prior to refloating.

The Rig Manager and Regional Field Support Manager should be advised of any actual or envisaged stability problems or of any significant deviation between results obtained when checking the accredited stability program with the alternative check calculation.

7.1 Alterations to Lightship

It is essential that all installations record all alterations to the lightship weight since the last inclining test or dead-weight survey. The objective is to ensure that all alterations of a permanent nature are recorded and included in stability calculations.

The position of all additional weights in excess of 100Kgs will be recorded

A lightship alteration logbook (register) will be maintained on every Transocean unit. The basis and first entry into each specific unit's log book shall be the original as build approved lightship weight and centres of gravity, additional approved light ship alterations shall be listed in order of ascending date and after an approved alteration has been completed.

An updated lightship report for each individual installation shall be forwarded Annually via the Regions Technical Support Group to the Engineering Department, Marine and Structural Engineering group for the purpose of maintaining information on each installation for technical, operations, and marketing support tasks.

The lightweight corrections shall be entered into the Stability programme as variable loads until the Lightship weight changes are formally submitted to the Classification society. Subsequent to approval by Class the Marine Operations Manual/ Approved Rig Stability Manual shall be updated and the new light ship weight and centres of gravity revised in the installations stability program.

For larger up-grade or modification projects it shall become the designated project managers responsibility to maintain all lightship alteration records and submittal to class society for review and modified lightship weight approval, inclusive of Marine Operations Manual updates.

Major modifications to the unit will have been subject to both Transocean and Certifying Authority approval but those of a minor nature which do not require approval from the certifying authority must still be approved via the Transocean modification and repair procedure.

References - HS&E Manual (HQS-HSE-001), Section 4 – Engineering, Installation Modification and Projects

Minimum Operating Standards Manual 9HQS-OPS-001), Section 4 – Modifications, Upgrades and Certification

8 BILGE AND BALLAST SYSTEM

All Installations must ensure the ballast system pumps and remotely operated valves are function tested at regular intervals and the results recorded. Malfunction or defects in the system must be reported without delay to the Rig Manager giving full details of the problem and measures taken to return the system to a fully functional condition.

Function tests shall be specific to each installation and shall include, but not be limited to, the following as applicable:

- All valves in both bilge and ballast systems to be tested from the normal and secondary control stations.
- Manual operation of valves
- Checks on leak indication system
- Manual sounding of all tanks to check remote readout indication
- Checks of draft gauges against actual draft
- Condition of valve operation indicator lamps
- Ballast control emergency system should also be tested
- Watertight door status indicators

Floating Installations shall conduct Emergency ballast exercises at intervals not to exceed 60 days. These should include "desk top problem solving" type scenarios as well as the physical operation of emergency systems.

Emergency ballast exercise reports, inclusive of scenario, actions, problems and overall exercise rating shall be submitted to the Rig Manager and Regional Technical Support Manager if any significant problems have been noted.

Refererence: HS&E Manual, HQS-HSE-001, Section 4 – Emergency Response).

Coastal States may have regulations regarding invasive species contained within ballast water. When changing operating regions it may be prudent to

change ballast water while at sea. A record of such change should be kept noting the position where ballasting commenced and completed.

8.1 Ballast Operations (floating installations)

All ballast operations must be conducted in accordance with the instructions contained within the Installation's Marine Operations or Stability and Ballast Control Manual. Particular note should be taken concerning Installation structural loadings and the effect of free surface on stability.

All major ballasting operations shall be carried out under the supervision of a competent person. On semi-submersible installations, the ballast control room must be manned at all times.

Installation stability will be calculated for all stages of a major ballasting operation prior to the operation being commenced. Limitations on minimum stability status are to be complied with at all times.

On monohull installations (drillships) pre-planning of major ballast operations will confirm the installations longitudinal strength and hull shear bending moments are within the established limits.

A full function check should be carried out on the ballast system; this should include pumps, valves, tank content gauges and draft gauges. Any defects should be noted and made known to all personnel involved in the operation.

The Installation's draft must not exceed the maximum allowable operational draft for the intact condition as detailed in the Load Line Certificate and Marine Operations or Operating Manual.

All loading, unloading, bulk transfers and ballasting operations must be immediately suspended in the event of a ballast system failure. The on tour Tool Pusher, Master/Barge Supervisor/Engineer and the OIM should be notified immediately. Ballasting operations must not be resumed until approval is obtained from the OIM in conjunction with the Master/Barge Supervisor/Engineer and the Maintenance Supervisor/Chief Engineer.

Prior to any major changes in ballast or variable load, the Barge Supervisor/Engineer should check the ballast plan and stability calculations to ensure that acceptable stability margins are maintained throughout the operation. Free surface effect must be considered in the ballast plan.

Slack tanks should be kept to a minimum during ballasting / de-ballasting operations to avoid excessive free surface effect. This is particularly important when passing through the critical draft range.

The Control Room Operator (CRO) must inform the on tour Tool Pusher and crane operator prior to the installation passing through the critical draft zone. A general PA announcement should be made to advise all personnel. All major load changes should be suspended until the installation is clear of the critical range and cranes lowered into the boom rests.

The Control Room Operator must notify the Barge Supervisor/Engineer and Master/OIM immediately of any unexplained change in trim, draft or ballast tank levels.

9 DAMAGE CONTROL

The Marine Operations Manual and Emergency Response/Contingency Manual for the Installation should contain details of damage control procedures.

All Installations shalll assess the possible areas that are liable to create a stability risk and prepare a damage control scenario for the containment of such damage and the resumption of the unit to a satisfactory stability state.

The following scenarios should be considered and procedures written dealing with such events:

- Flooding of void spaces
- Flooding of pump rooms
- Flooding of tubular bracing

In the event that structural damage is incurred posing a severe threat to the integrity of the installation, the operation will become an issue of saving life. The OIM/Master may at a later stage be required to make a decision with regard to salvage and as such he should be familiar with the use of the Lloyds Open Form Agreement.

9.1 Watertight Integrity

Every installation has a maximum operational draft assigned by it's Classification society. The safety of the Installation at this draft is dependent upon the watertight integrity of the Installation.

It is implicit upon the OIM/Master that the watertight integrity is not breached. If this should happen, and the Installation is subjected to flooding and subsequent loss, a claim will be based upon the watertight integrity of the installation being intact and hence any claim for loss may be rejected.

The OIM/Master will ensure that all watertight closures remain closed except for the usual functions of access and egress. Other watertight closures (i.e. ventilation duct remote operated valves) shall be operated on a monthly basis and so logged.

Control room personnel must be advised of any obstructions preventing the closure of any closure devices and such obstructions must be readily removable should a closure be activated.

In the case of Semi-submersible Installations the positioning of supply vessel alongside the unit **shall not be permitted** on any side where there is an inability to totally close the watertight closures.

In the case of Self-elevating Installations the positioning of a vessel alongside the unit **shall not be permitted** while the unit is afloat.

When tank or enclosed space entry is required, i.e. maintenance or inspection, pre planning must consider the worst case flooding and free surface effect of the loss of that space and suitable contingency plans must be made.

In ship-side spaces containing single valve separation between the sea and the space, the operability of all bilge alarms must be verified at daily intervals. As part of the contingency planning the loss of that compartment due to flooding and counter effects must be considered.

Any breach of the watertight integrity of the installation resulting in the flooding of a compartment must be reported to the Rig and Region Managers immediately.

The physical checking of all void spaces for water ingress must be completed at regular intervals dependent upon the size of the space and it's potential for reducing the installation's stability.

10 TOWING OF SEMI-SUBMERSIBLES

10.1 Towing Bridle

"Each towed Semi-submersible shall have a main and secondary tow bridle connected at the lower hulls for ocean voyages. Tow bridles shall be fitted with a deployment / recovery system. When multiple tugs are used in parallel, the main tow bridle can be split or additional tow lines connected at each pontoon (eg for a 2 or 3 tug towing arrangement).

10.2 Towing on Anchor Chains / Pendants

Towing a semi-submersible on the forward anchors is not an acceptable method of towing. In extraordinary circumstances and with prior approval from District Management exemptions might be granted on a case by case basis for very short field transits, (generally 10 nautical miles or less)

In the case of emergency however this method provides a quick means of connecting and getting control of an Installation while adrift or otherwise impaired.

It is not acceptable to tow a vessel on any anchor permanent chaser pendants.

10.3 Towing & Anchor Handling Vessels

Towing and Anchor Handling Vessel(s) engaged in towing and or anchor handling a Transocean installation are subject to survey at the discretion of the OIM to ensure fitness for purpose prior to commencement of towing or anchor handling operations.

Towing vessels shall have a secondary means of connecting the tow, should the tow wire fail. This may be a second tow drum, a work drum or a second tow vessel. A secondary wire not available for immediate deployment. e.g. wire stowed on a spare reel separate from a work / tow drum is not acceptable.

Bollard pull requirements for towing vessels are discussed in the Mooring Guidelines section of this manual.

Towing vessels shall be equipped with multi-engine propulsion and steering, suitable sized anchor handling winches and mechanical wire/chain stopper system such as Triplex Jaws, Karm Forks or similar. Pelican hook arrangements for deepwater anchor handling are prohibited.

Note.
Towing vessels are in service with increasingly larger bollard pull capabilities.
It is possible an attending towing / anchor handling vessel may have a bollard pull in excess of the strength of the Installations towing bridle and fittings. Because of this it is essential that the towing vessel Master is made aware of the towing bridle capabilities and limitations. The maximum percentage of the towing vessel bollard pull that is to be used shall be agreed on before commencing towing operations.

1 SUMMARY

It is the policy of Transocean that site assessment will be performed for all Self Elevating Installations.

This document provides Transocean Management and Rig Personnel a method for site evaluation and guidance regarding safe Installation moving operations. This document is also intended to provide Transocean's Clients guidance regarding Transocean's Underwriter's requirements for site approval and installation move operations.

Figures 6.1 through 6.5 summarize the evaluation process.

Site survey and geo-technical Information is to be forwarded to the Houston Engineering Dept or Regional Marine Department (where established) for review and approval. When a full structural analysis by Transocean Engineering is deemed necessary, a Request for Engineering Assistance (REA) is to be raised by Regional / District Management prior to final commitment of the rig to the client.

2 APPLICABILITY

This document applies to Installations as follows:

- 3 Independent Leg Unit - Electric / Mechanical rack and pinion elevating system
- 4 Independent Leg Unit - Hydraulic/Mechanical pin and yoke elevating system

This document applies to Sites / Locations as follows:

- New drilling locations within known areas or fields of operations,
- Existing drilling locations within known areas or fields of operations,
- New drilling areas where environmental and soil characteristics differ from specific rig design criteria or from previous operating conditions.

3 REQUIRED CLIENT FURNISHED DATA

3.1 SITE SURVEY INFORMATION

The Client shall provide the data detailed below as far in advance of a planned location move as practically possible so to allow sufficient review time by Transocean Engineering and underwriters approving bodies.

- Type of operation: exploration well or over platform
- Location Designation
- Geographical Coordinates

- Water Depth
- Identify platform, pipelines, cables, well heads, floating or fixed vessels or any other relevant objects within a 3mile radius of the proposed location.

- Platform as built drawings:

  As Built platform drawings are required to determine hull / platform clearance, required air-gap limitations, required skid out distance and if platform leg batter interferes with unit's spud-cans. The position of production risers, pipelines or power cables that could compromise unit placement must be identified.

- Previous jack-up history at the location including penetration and applied leg loading.

- Bathymetric survey:

  Close-grid survey over one square kilometer and centered over the proposed location. Water depths shall be corrected for L.A.T., such surveys shall include seabed features. (See Appendix A for preferred line spacing)

- Side Scan Sonar:

  To ascertain the location is free from obstructions on the ocean bottom. A divers survey or alternative R.O.V. survey can be considered providing the surveyed area is at least 50 meters beyond the extreme perimeter of the rig footprint.

- Shallow seismic (Boomer) data of 1 to 10 kHz frequency:

  To identify shallow hazards and near surface channeling which may affect rig emplacement.

- Magnetometer survey

  To identify any metal objects that might interfere with unit placement. Any interference shall be clearly marked.

3.2 GEO-TECHNICAL INFORMATION

Bore-hole information shall be made available including spud-can penetration curves on the proposed location. Where possible bore hole data shall be correlated to cone penetrometer data.

Data contained in fixed structure leg pile records or platform soil bearing information is not suitable for penetration curve assessment. Drop core samples are unacceptable.

In the event that geo-technical bore hole information is not available, information from within a 1 mile radius of the proposed location may be considered if supported by an unobstructed shallow seismic tie back line to the known bore hole. Such information may be deemed unacceptable if the tie back line shows the existence of channeling, variation of geophysical or acoustic properties or other discontinuities.

In absence of site specific bore-hole data or in known areas of potential rapid penetrations / punch through, it shall be expressly understood that a core shall be taken from the specific drilling unit on location. Core samples shall be taken at no greater than 3 to 5 foot intervals. Core samples shall extend to a point where the load penetration curve indicates the continuous presence of soils capable of supporting the lesser of:

- 1.5 times the required bearing capacity of the unit for a depth of 8 meters below the expected maximum penetration, OR
- The estimated penetration plus 1.5 spud can diameters, whichever is less.

Recovered soil samples are to be analyzed on board by a qualified geo-technical engineer. The analysis of bore-hole samples including penetration curves is to be forwarded to the Houston Engineering Dept or Regional Marine Department (where established) and Underwriters certifying bodies for review and approval prior to commencing pre-loading or pre-driving operations.

In cases where installation difficulties or uncontrolled settlements are predicted, Transocean Engineering (in conjunction with Underwriters approving bodies and Regional / District management) may recommend site-specific pre-loading or pre-driving operations which are to be applied. These recommendations are intended to minimize risk during pre-load or pre-drive operations, and may include individual leg pre-loading, extended holding times, crust degradation or a combination thereof.

Transocean will consider suitably calibrated geophysical modeling of specific fields when geo-technical bore hole information, jack-up leg penetration and geophysical tie lines conservatively justify this path of action. This method of site review is acceptable only on a case by case basis and is subject to prior Transocean Engineering approval. Decisions to waive geo-technical bore hole analysis by utilizing analytical models will be based upon a pre-agreed risk assessment matrix. It is unlikely that locations located beyond 4kms from a location with quantified soil properties will be considered acceptable.

3.3 METOCEAN DATA

Metocean data, including references to data sources, shall be provided as indicated below:

- Extreme environmental weather conditions

1 year and 50 year return period data for the proposed rig location or the immediate vicinity to be provided. If such return periods are not available the more stringent 100year return condition shall be used for location approval purposes.

- Wind speed - one minute mean at 10 meter above sea level
- Wave height - significant and maximum
- Wave period - significant and maximum wave energy associated
- Tidal range, tidal streams and currents at 50% of water depth and bottom currents
- Maximum storm surge
- Directional information on each item above
- Predominant swell conditions
- Hurricane, Monsoon Typhoon or Ice information

4 VESSEL CHARACTERISTICS

Regional / District management shall provide updated details of the rig characteristics and any modifications that may have affected the rig's configuration when submitting a Request for Engineering Assistance. Modifications may include leg length, weights, structural capacity or jacking capability, wind areas or pre-load tank capacities.

5 LOCATION APPROVALS

Transocean has adopted a policy that each location for Self Elevating Installations shall have specific Location Approval prior to placing the unit on such location. Types of Location Approval are as follows:

5.1 UN-RESTRICTED LOCATION:

This is the standard type of location approval. The Installation is deemed capable of operating within its approved load ratings and the Location Certificate of Approval restricts operations as specified in the Installation's operations manual.

5.2 RESTRICTED LOCATION:

For locations where the approved operating criteria is marginally exceeded and where agreed restrictions and/or added precautions are part of the Location Certificate of Approval. This type location approval authorized after review by Transocean engineering and underwriters approving authority.

5.3 DIFFICULT LOCATION:

An Engineering analysis shall be conducted for locations where there is little operating experience for a specific type of Installation or when Regional Management questions an Installation's operational suitability.

Preferably, the analysis will be conducted by Transocean Engineering requested through the REA process. In some cases a third party consultant may conduct the analysis in which case the results are reviewed by Transocean engineering. The analytical results are further reviewed on behalf of Underwriters by their authorized approval authority.

Difficult locations include, but are not limited to the following considerations:

- Punch Through Potential
- Pre-existing Footprints / Sliding potential
- Scouring Potential
- Ultra Deep Penetrations
- Ultra Shallow Penetrations (coral)
- Physical Obstructions
- Ultra Shallow Water or Approach Area's
- Harsh Environment Conditions
- High Current Areas
- Designated minefields

- Ice Conditions
- Hurricane or Cyclone Conditions
- Locations In or Near Major Shipping Lanes
- SIMOPS with other floating structures, pipe-lay barges, DP intervention / maintenance vessels, floating accommodation units
- Production Platforms that can not be shut in during arrival and departure of a specific unit

6 SITE ASSESSMENT FLOW CHARTS

The site assessment flow charts are provided for general guidance and are intended to serve as a reminder of issues needing attention, technical verification or clarification. Due to the nature of individual locations, these charts are unlikely to cover all possible combinations of issues that may arise. Clarification is to be sought from Houston Engineering or Regional Marine Operations (where established) in cases where the charts indicate unresolved queries or the need for Engineering contact.

REA for location site assessment shall be routed through the Regional Field Support Group in accordance with standing instructions.

Flowcharts:

6.1 Stage 1 General information, physical properties and geometry

6.2 Stage 2 Debris Clearance and Sonar survey

6.3 Stage 3 Geo-technical bore-hole information, leg penetration estimate and Installation behavior.

6.4 Stage 4 Shallow seismic assessment and shallow gas risk to 2nd casing shoe.

6.5 Stage 5- Marine Operations (Note: Marine Operation issues are geographically specific and therefore herein only representative in nature.)

APPENDIX "A" - Preferred site survey line spacing

6.1 - SELF ELEVATING DRILLING UNITS LOCATION SUITABILITY REVIEW

Location Suitability	Geophysical	Geo-Technical	Marine Operations
• Check Coordinates • Check Water Depth • Check Tidal Range • Check Bathymetry • Open location or Platform • Has rig been on location before • Old Foot Prints • Pipelines or other Obstructions • Divers or ROV inspection • Clearance of Debris	• Location Side Scan Sonar details • Magnetometer details • Bathymetry • Shallow Seismic Identify hazards • Sub Bottom Profile • Survey Summary • Survey Charts	• Bore hole information at location • Bore hole information in vicinity / tie in • Bore hole to be taken from rig / procedure • Pile Driving Records / platform	• Proposed Towing Vessels / inspection • Proposed Support Vessels / inspection • Rig Move Procedure Review • Pre-load Procedure Normal / single leg or other • Stability Calculations • Pre-load Calculations • Warranty Surveyor

Water Depth < 25 feet →

- Check Tidal Range
- Check Approach Channel
- Check area for Sand Banks / Coral outcrops
- Check Tow Vessel draft in approach/positioning path

↓ **NO**

Water Depth Plus Penetration > 25 ft AND > max design operating water depth AND Open Location →

- Check Required Minimum Airgap
- Check Leg Reserve, Penetration & Water Depth
- Check Pipeline Positions, mark or confirm set in Positioning Equipment
- Check Site Survey

↓ **NO**

Platform ? →

- Check Platform Height
- Check Required Airgap (include platform crane/equipment height)
- Check Leg Reserve
- Check Proximity against platform decks / rig drawings
- Will desired platform slots fit within cantilever drilling envelope?
- Check batter of platform legs (interfering with rig footprint)

↓ **NO**

Platform Previous Foot Prints / Pipelines →

- What penetration was achieved?
- Position of prints / can it be avoided / will rig slide off position?
- Previous rig design / heavier – lighter?
- Will pipelines interfere with leg positions?
- Special precautions for lowering legs during approach?
- Is there adequate clearance to allow legs to be pulled on departure?

↓ **NO**

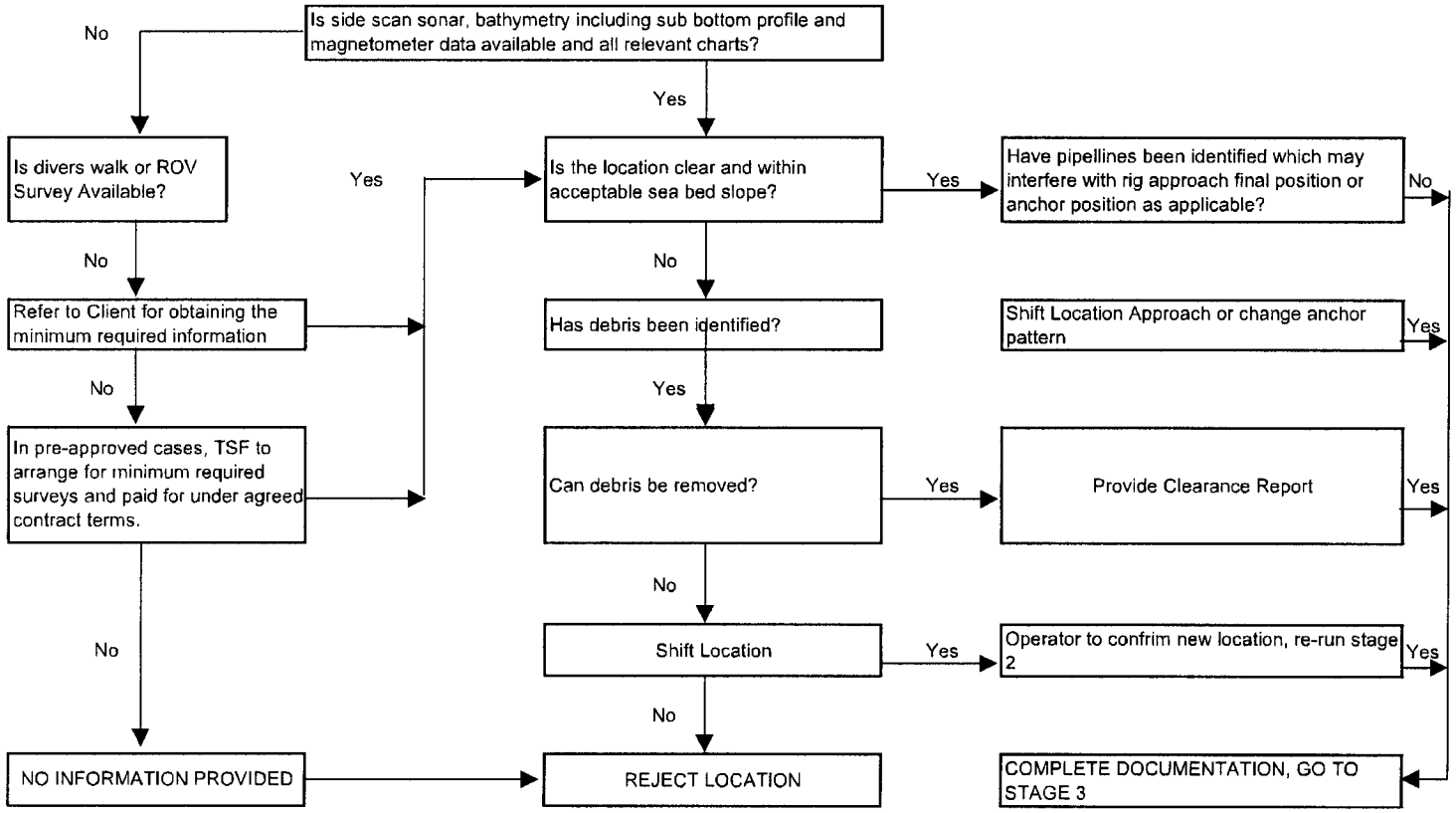
Divers or ROV check →

- Divers walk, ROV or side scan survey 100meter from center of rig location in past 12 months or following recent construction or lay barge activity?
- Remove debris and provide clearance report

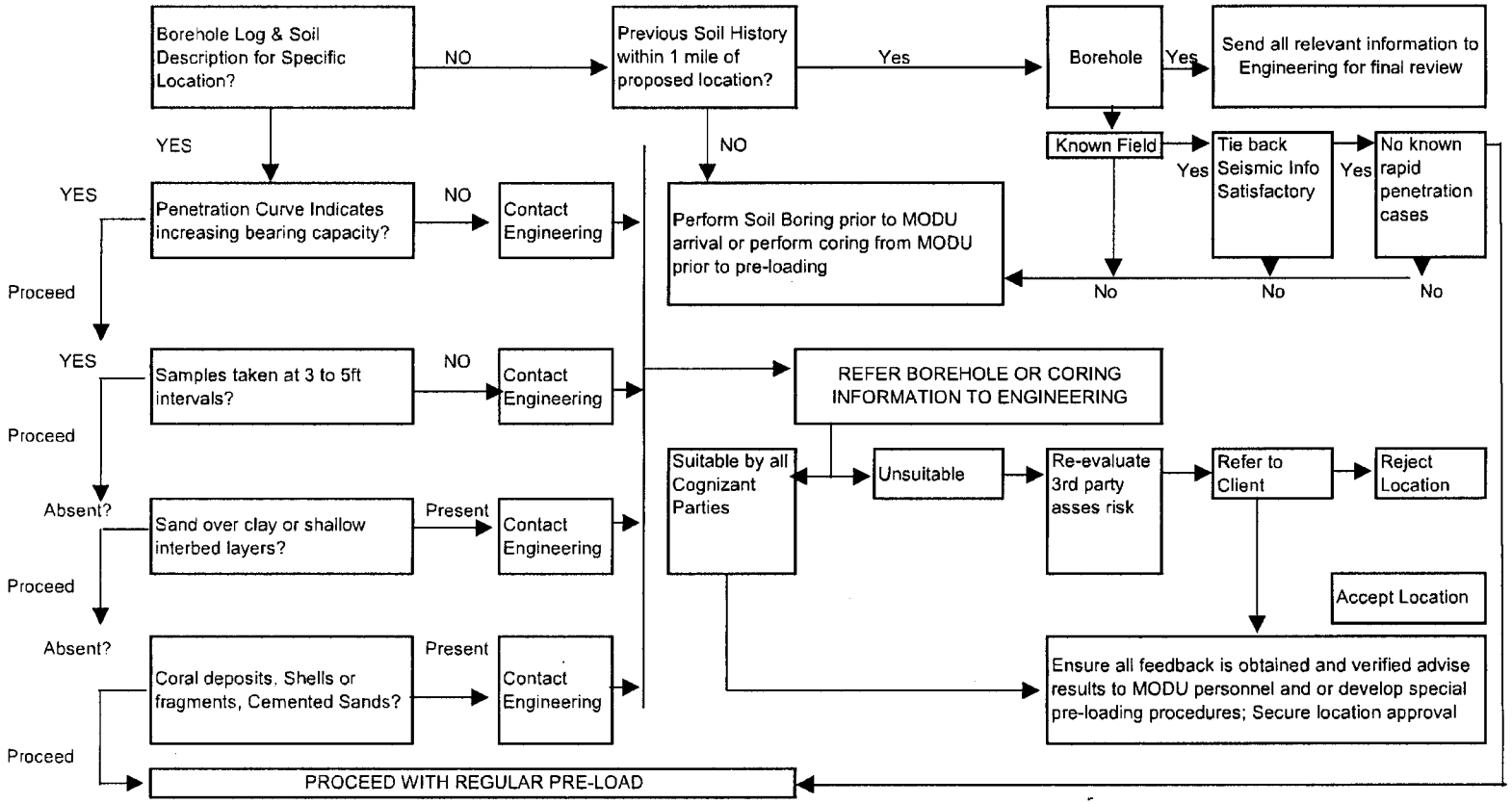
↓

GO TO STAGE 2 – DEBRIS CLEARANCE AND SONAR SURVEY

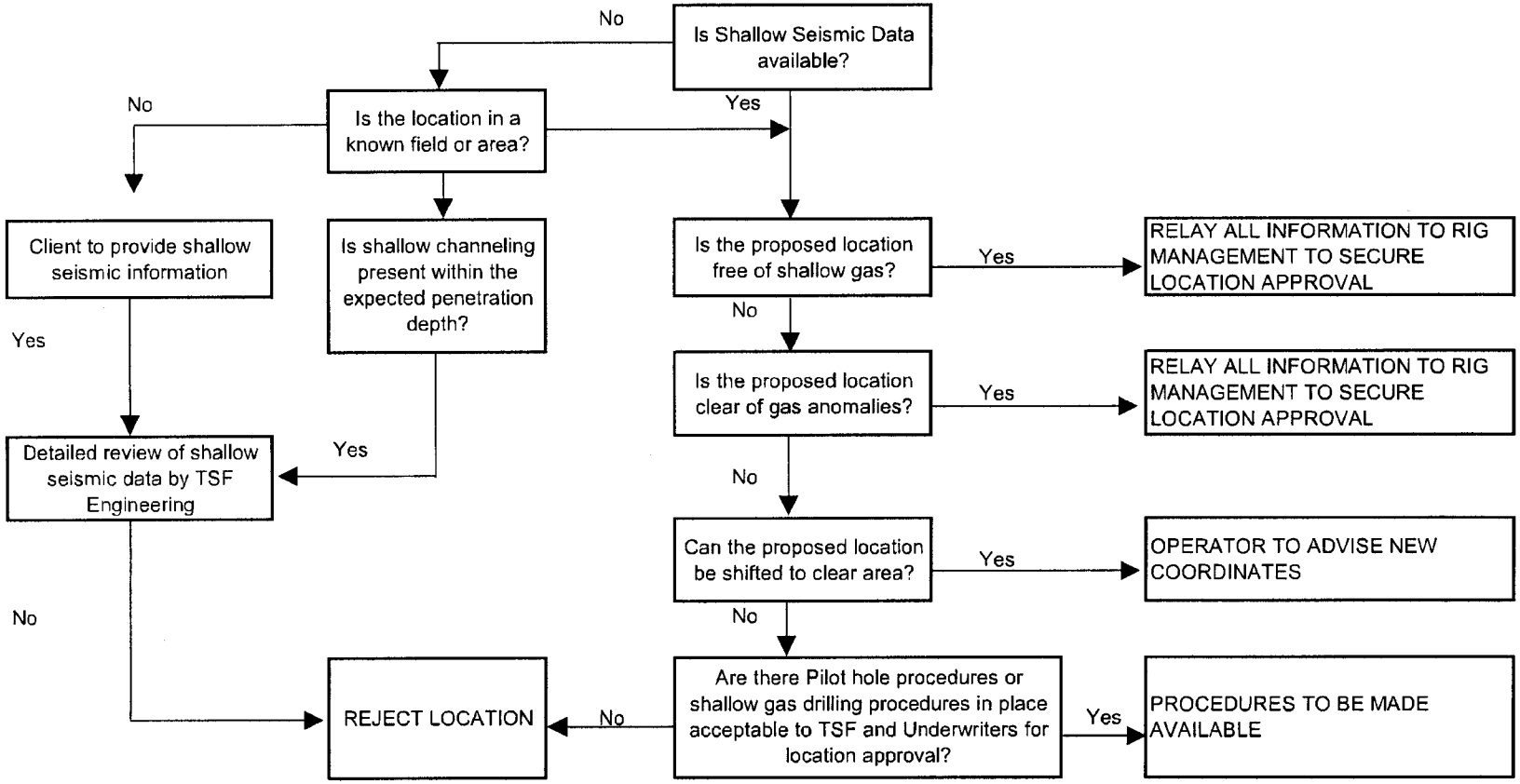
6.2 Stage 2 – Survey & Debris Clearance



6.3 Stage 3 – Geo-technical Review



6.4 Stage 4 – Shallow seismic assessment and shallow gas risk



SELF ELEVATING DRILLING UNITS MINIMUM MARINE VESSEL REQUIREMENTS FOR FIELD MOVES, ASIA OPERATIONS

6.5 STAGE 5 – Marine Operations

Departure, In Field Tow and Positioning

Type of Location	Operating Area	Bollard Pull	Number of Vessels
Open Location with no obstructions	Indian Region	120 ton continuous	1
Open Location with obstructions or platform locations	Indian Region	150 ton continuous combined	2 vessels of 75 ton
Open Location with obstructions or platform locations	Indian Region	150 ton continuous combined	3 vessels of 50 ton
Open Location with no obstructions (Monsoon)	Vietnam, Malaysia Thailand South China Sea	120 ton continuous	1
Open Location with obstructions or platform locations (Monsoon)	Vietnam, Malaysia Thailand South China Sea	160 ton continuous combined	2 vessels of 80 ton
Open Location with obstructions or platform locations (Monsoon)	Vietnam, Malaysia Thailand South China Sea	180 ton continuous combined	3 vessels of 60 ton
Open Location with no obstructions	Indonesia Brunei	100 ton continuous	1
Open Location with obstructions or platform locations	Indonesia Brunei	120 ton continuous combined	2 vessels of 60 ton
Open Location with obstructions or platform locations	Indonesia Brunei	135 ton continuous combined	3 vessels of 45 ton
Open Location with no obstructions	Australia	120 ton continuous	1
Open Location with obstructions or platform locations	Australia	160 ton continuous combined	2 vessels of 80 ton
Open Location with obstructions or platform locations	Australia	180 ton continuous combined	3 vessels of 60 ton
Open Location with no obstructions	Philippines China, Korea	120 ton continuous	1
Open Location with obstructions or platform locations	Philippines China, Korea	160 ton continuous combined	2 vessels of 80 ton
Open Location with obstructions or platform locations	Philippines China, Korea	180 ton continuous combined	3 vessels of 60 ton

SELF ELEVATING DRILLING UNITS MINIMUM MARINE VESSEL REQUIREMENTS FOR FIELD MOVES, WORLD WIDE OPERATIONS

Departure, In Field Tow and Positioning

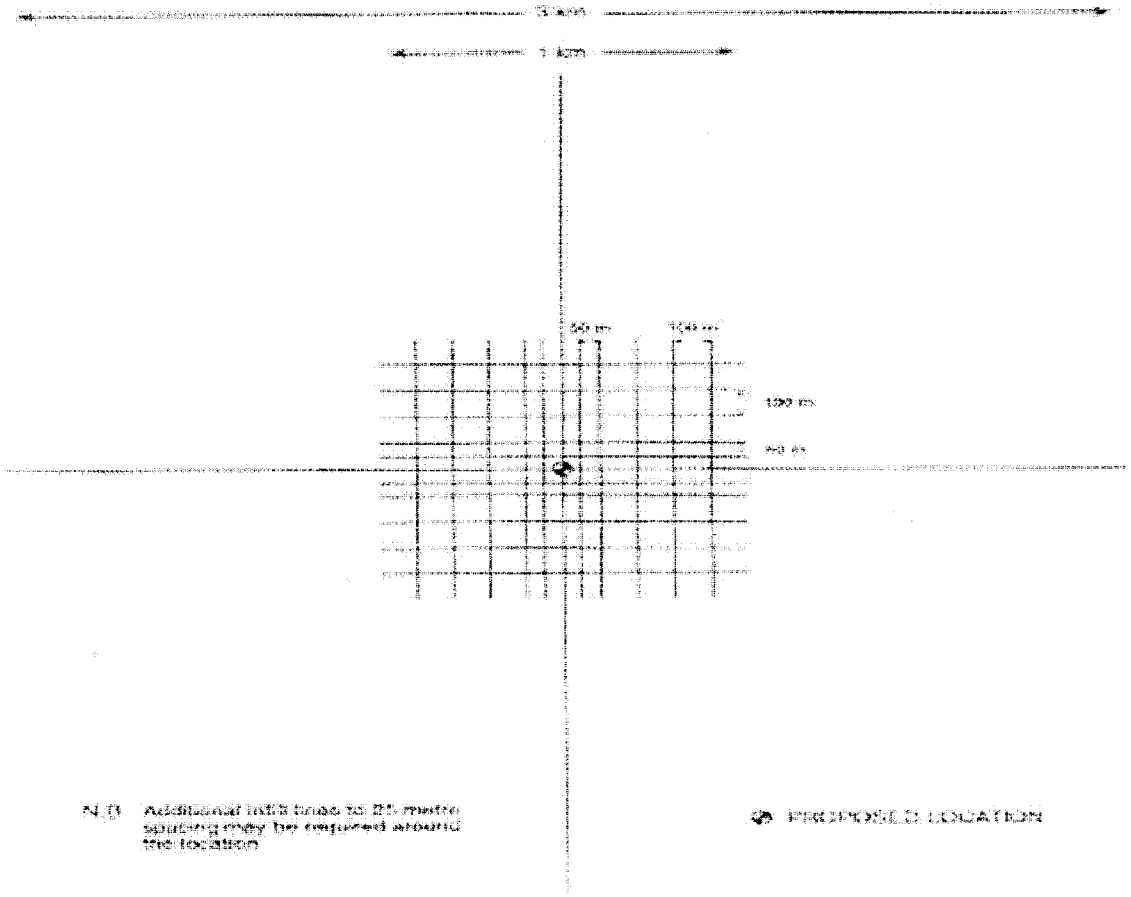
Type of Location	Operating Area	Bollard Pull	Number of Vessels
Open Location with no obstructions	West Africa	100 ton continuous	1
Open Location with obstructions or platform locations	West Africa	120 ton continuous combined	2 vessels of 60 ton
Open Location with obstructions or platform locations	West Africa	120 ton continuous combined	3 vessels of 40 ton
Open Location with no obstructions	Mediterranean	120 ton continuous	1
Open Location with obstructions or platform locations	Mediterranean	160 ton continuous combined	2 vessels of 80 ton
Open Location with obstructions or platform locations	Mediterranean	180 ton continuous combined	3 vessels of 60 ton
Open Location with no obstructions	Caspian Sea	120 ton continuous	1
Open Location with obstructions or platform locations	Caspian Sea	160 ton continuous combined	2 vessels of 80 ton
Open Location with obstructions or platform locations	Caspian Sea	180 ton continuous combined	3 vessels of 60 ton
Open Location with no obstructions	Gulf of Suez Red Sea	100 ton continuous	1
Open Location with obstructions or platform locations	Gulf of Suez Red Sea	120 ton continuous combined	2 vessels of 60 ton
Open Location with obstructions or platform locations	Gulf of Suez Red Sea	120 ton continuous combined	3 vessels of 40 ton
Open Location with no obstructions	Arabian Gulf	100 ton continuous	1
Open Location with obstructions or platform locations	Arabian Gulf	120 ton continuous combined	2 vessels of 60 ton
Open Location with obstructions or platform locations	Arabian Gulf	120 ton continuous combined	3 vessels of 40 ton

SELF ELEVATING DRILLING UNITS MINIMUM MARINE VESSEL REQUIREMENTS FOR FIELD MOVES, WORLD WIDE OPERATIONS

Departure, In Field Tow and Positioning

Open Location with no obstructions	Brazil Argentina Peru	120 ton continuous	1
Open Location with obstructions or platform locations	Brazil Argentina Peru	160 ton continuous combined	2 vessels of 80 ton
Open Location with obstructions or platform locations	Brazil Argentina Peru	180 ton continuous combined	3 vessels of 60 ton
Open Location with no obstructions	Gulf of Mexico Venezuela Caribbean	100 ton continuous	1
Open Location with obstructions or platform locations	Gulf of Mexico Venezuela Caribbean	120 ton continuous combined	2 vessels of 60 ton
Open Location with obstructions or platform locations	Gulf of Mexico Venezuela Caribbean	120 ton continuous combined	3 vessels of 40 ton
Open Location with no obstructions	Eastern Canada	160 ton continuous	1
Open Location with obstructions or platform locations	Eastern Canada	200 ton continuous combined	2 vessels of 100 ton
Open Location with obstructions or platform locations	Eastern Canada	240 ton continuous combined	3 vessels of 80 ton
Open Location with no obstructions	North Sea	160 ton continuous	1
Open Location with obstructions or platform locations	North Sea	200 ton continuous combined	2 vessels of 100 ton
Open Location with obstructions or platform locations	North Sea	240 ton continuous combined	3 vessels of 80 ton

APPENDIX "A"



JACK-UP RIG SITE SURVEY
LINE PATTERN

1 SUMMARY

This section provides guidance to OIM's and Barge Supervisor's to prepare Self Elevating Installations for moving operations. The guidelines herein describe minimum marine operations practices to ensure each location move is planned, prepared and conducted in the safest and most economical manner. These guidelines are to be read in conjunction with the Check Lists contained in Section 5.1.

2 GENERAL INFORMATION

2.1 Distance

Confirm distance between locations and calculate the estimated transit time. Ensure that the estimated transit time correlates to available weather forecasting service. Allowance to be made for deviations around obstructions, shipping lanes or shallow areas.

2.2 Open Locations

Positioning equipment shall be supplied by the operator and shall include at a minimum of a DGPS system stabilized by a gyrocompass. One master DGPS unit and one back up DGPS unit shall be required. In cases where seabed obstructions such as wellheads, pipelines or footprints are in the vicinity of the proposed location, such obstructions shall be displayed on the master DGPS screen and may also be marked with suitable buoys. As a general rule it is not required to mark the location with a buoy.

2.3 Platform Locations

Prior to the move, confirm pipelines are marked with suitable buoys. In cases where a platform approach is to be made on anchors, operators are to supply DGPS positioning system on board the Installation and on board the anchor handling vessel(s). The DGPS system requirements are the same as for Open Locations above. The proposed anchor pattern must be specified and agreed to ensure adequate clearance is allowed between anchor line positions and pipelines / other obstructions. A platform visit should be made in advance of the move to verify the geometry of the platform is as expected, no cranes, overhangs or additions which might cause interference exist, the proposed drilling slots are accessible and no production risers are fitted externally to the platform docking face.

Prior to commencing final positioning or departure at a platform, agree and confirm operational limitations including, but not limited to, daylight and status of production wells and flow-lines.

Fields containing unlit structures should not be entered in hours of darkness.

Non-daylight near platform Installation moving operations that may be considered on a case by case basis are limited to:

- departure from a location with a clear and unobstructed exit path
- moving onto a lighted platform with anchors from a preposition location in the immediate vicinity.

If the platform is to remain live, Installation positioning is strictly limited to daylight hours only. The reasons for the platform remaining live during an Installation move are to be provided by the Operator. A site specific HAZOP / RISK assessment is required to evaluate the risk of contact between the Installation and the Platform during Installation positioning.

2.4 Attending Marine Vessels

All attending marine vessels for towing / anchor handling operations shall be inspected. The minimum inspection requirement is presented in Check List 3.XX.xx. The inspection shall be conducted by the Barge Supervisor or OIM and may be witnessed by the attending warranty surveyor if present. Such inspections shall confirm that each inspected vessel meets minimum criteria.

2.5 Move Plan and Meeting

The Installation Manager is responsible for the preparation of an Installation move plan that addresses the operational and logistical aspects of the move. The move plan will identify the responsibilities of Transocean, Clients and subcontractors and identify any site-specific procedures necessary. The move plan should also include contingency plans as appropriate. Where it is customary for Transocean Clients to hold a shore based office meeting attended by all affected parties to discuss preparations for forthcoming Installation move, the formal minutes of such a meeting will be acceptable as a substitute to the rig move plan.

3 RESPONSIBILITIES

3.1 Offshore Installation Manager (OIM)

The installation Manager (OIM) is the person in charge and has overall responsibility for all personnel and the unit's safety. The OIM has the right to veto any operation conducted on board and any operation effecting the safety of the unit. The OIM may delegate the marine operations responsibility to a suitably qualified Marine Superintendent / Rig Mover.

3.2 Barge Supervisor

The Barge Supervisor is the on board marine authority and as such is fully responsible to the OIM to prepare the unit for moving operations. This includes, but is not limited to, preparation of calculations for jacking and afloat conditions to ensure the load line draft, variable loads and VCG are in compliance with the Installation's marine operating manual. The Barge Supervisor is to ensure the Installation and all equipment is secured in accordance with good marine practice, all ballast systems have been tested and the Installation is in seaworthy condition prior to commencing move operations.

3.3 Warranty Surveyor

The Warranty Surveyor, if present, is appointed by Transocean to satisfy requirements of the Installation's insurance underwriters. The Warranty Surveyor is not the underwriter and does not represent insurers. The Warranty Surveyor's responsibility is to independently observe and report that move operations are being conducted within the unit's marine operations manual and generally acceptable marine practices. The Warranty Surveyor may offer expert advice on marine related issues similar to a Harbor Pilot's function. Use of Warranty Surveyors in an active role is discouraged in order to minimize risks associated with conflict of interest. The Warranty Surveyor has no direct authority or veto powers regarding Installation mobilization as ultimate responsibility for the Installation remains with the OIM and the Installation's owners at all times.

3.4 Marine Superintendent / Installation Mover

The Transocean Marine Superintendent / Rig Mover, if present, is the principal Company marine authority and will have been involved in the move planning. The Transocean Marine Superintendent / Installation Mover shall liase closely with the OIM and Barge Supervisor and is directly responsible for Installation towing, anchoring and

positioning operations. The Marine Superintendent / Installation Mover has the authority to veto

any part of the marine operations he believes to be inconsistent to established procedures or constituting an unsafe marine practice.

3.5 Rig Manager

The Rig Manager's function (or other shore based managerial or supervisory staff) when attending an Installation move is strictly to support the OIM. The Rig Manager may assist with liaison with the client and shore management and act as delegated by the OIM. The Rig Manager is not to assume command of the Installation move operation, which is to remain with the permanent rig crew, unless formally acting as the Installation Mover.

4 PRE-MOVE MEETING

A pre-move meeting shall be conducted prior to commencement of jacking and moving operations.

4.1 Attendees

The following attendees shall as a minimum attend the pre-move meeting:

- Offshore Installation Manager
- Barge Supervisor
- Marine Warranty Surveyor (if present)
- Transocean Marine Superintendent / Installation Mover (if present)
- Platform Installation Manager (for manned installations)
- Operators Representatives
- Masters of attending marine vessels
- Rig crew members with key responsibilities.

4.2 Agenda

An agreed written Installation mobilization plan including site specific procedures is the expected result of the pre-move meeting. The following topics shall be discussed as a minimum:

- Maximum weather criteria for moving off and on location.

As general rule for open locations wind speed will not to exceed 20-25 knots with a maximum 5 feet sea state and a 1knot current. For platform locations wind speeds not to exceed 15 - 18 knots with a maximum 4 feet sea state and 1 knot current (preference during slack tide). Particular care is required in areas where there are natural long swell periods, tidal ranges and current.

- A passage window shall be agreed.

  Departure from the old location shall not occur without determining with certainty that a "weather window" of sufficient duration exists to allow the Installation to depart, move and jack up at the new location or at a safe and sheltered stand-by refuge location. The "weather window" determination shall be supported by area weather forecast from a recognized weather forecasting service. Where weather patterns do not conform to predictions, additional weather information should be sought or the situation discussed directly with duty forecasters

- Communications,

  Clear VHF / UHF channels and lines of communications between the unit and attending vessels as well as with unit's key personnel to be agreed.

- Proposed towing route and navigation procedures.

- Proposed Heading at the arrival location

  Consideration of risks associated with hazardous gas, flaring operations, prevailing current, prevailing wind directions, supply vessel and helicopter operations, etc.

- Available fuel and water on the Installation and attending vessels

  A 25 percent fuel contingency is optimal.

- Allowable Installation motions during departure, tow and arrival.

- Towing arrangements including contingencies and emergencies.

- Tug connection points based on Installation layout, prevailing weather and heading required

- Anchor handling procedures (where required)

- Assignment of key personnel for jacking and winch operations

- Acceptance criteria for position and heading tolerances on open locations
  - Watch keeping
  - Watertight integrity and tank sounding.

5 PRE-MOVE PREPARATIONS

5.1 Check List

The OIM shall use a pre-move checklist detailing pre-move tasks and those responsible for ensuring that tasks have been completed. A example pre-move check list is presented in Figure 5.1.1.

Figure 5.1.1
Example Pre-Move Checklist #1

No	Task To Be Completed	Initial
1	Close mud pit dump valves and secure	
2	Stow BOP's and secure	
3	Secure rig floor, tongs and other loose equipment	
4	Remove stern handrails, remove and secure mud and cmt lines	
5	Skid substructure in moving position	
6	Secure substructure beams with clamps, chains, wedges as required	
7	Replace handrails as required	
8	Reconnect salt water and airlines	
9	Secure top drive and block	
10	Close and secure all mud pit and master dump valves	
11	Secure the mud pump room	
12	Driller instructs crew for jacking operations at designated leg	

Figure 5.1.1

Example Pre-Move Checklist #2

No	Task To Be Completed	Initial
1	Pre -grease jacking motors if required	
2	Secure all loose gear in the machinery spaces and work shops	
3	Check operation of mooring winches	
4	Disconnect the deep well pumps and raise & secure tower as required	
5	Check all water tight doors to machinery spaces are properly closed and secured	
6	Assign power to the jacking system	
7	Check oil in primary gear boxes	
8	Check oil in secondary gear boxes	
9	Pre-grease all main bearing on jacking system	
10	Check oil level in skidder unit	
11	Electrician to stand by in SCR room during jacking	
12	Ensure that minimal required personnel is below decks during afl operations and pre-loading	

Figure 5.1.1
Example Pre-Move Checklist #3

No	Task To Be Completed	Initial
1	Remove all containers and heavy loads from the bow area	
2	Prepare towing gear as required	
3	Stow and secure all tubulars	
4	Secure main deck cargo and equipment	
5	Block stow as much deck load as possible within the control pipe bay And within the inside deck load limits	
6	Pick up and secure all loading hoses & vent lines	
7	Prepare jetting lines as required	
8	Close and secure all water tight doors above and below decks, Including quarters entry doors	
9	Remove and secure mooring lines	
10	Close and secure all main deck hatches and vents	
11	Secure all items in the sack store	
12	Secure all movable gas bottles and cutting sets	
13	Secure welders area and steel rack	
14	Place leg grease and brushes at each leg chords	
15	Lay down all crane booms in the racks and secure main block and Or whipline	

Figure 5.1.1
Example Pre-Move Checklist #4

No	Task To Be Completed	Initial
1	Check operation of all pre-load dump and fill valves	
2	Check that all required pre-load dump valve blanking caps are Secured	
3	Check that all pre-load tanks that are not required for ballast are stripped	
4	Sound all tanks and void spaces and record soundings	
5	Check all tank & void space manhole covers	
6	Test the bilge system and ensure that bilge pumps properly prime	
7	Charge all hand held radios, spare batteries and ensure operation	
8	Complete and check all afloat and pre-load stability calculations	
9	Check that all water tight doors and closures are secured	
10	Check all leg wells for obstructions	
11	Assemble all required charts, weather forecast, tidal data contemplated towing route	
12	Test jacking panel, lamp test and alarms as required	
13	Calculate position of raw water tower for moving off location and onto the new location	
14	Grease skid rails as required	
15	Ensure that jacking system bearings are greased during system Operation	

WATERTIGHT HATCHES AND DOORS MUST REMAIN PROPERLY CLOSED AND SECURED AT ALL TIMES WHEN THE UNIT IS AFLOAT AND UNTIL PRE-LOADING OPERATIONS ARE COMPLETED.

Figure 5.1.1
Example Pre-Move Checklist #4 (continued)

No	Task To Be Completed	Initial
16	Calculate required pendant wire length if anchors are used	
17	Check Navigation lights and day shapes	
18	Check all jetting equipment and function test	
19	Check all towing gear is ready	
20	Check and grease anchor fairleads if used	
21	Check that rack grease and brushed are ready	
22	Check mooring lines are disconnected and secured	
23	Check that all dump valves are secured	
24	Check sea chest for proper operation	
25	Check that raw water tower is ready to be raised and disconnected when required	
26	Check that master dump valves are secured	
27	Check that all equipment is properly secured	
28	Test jacking system emergency stop	
29	Test tow bridle deployment and recovery winch	
30	Check all towing connections (smit brackets, bollards, bits)	
31	Have heaving lines ready as required	
32	Have sledge hammers ready at smit brackets	
33	Have split pins, axe, hacksaw and knife at a ready place	

Figure 5.1.1
Example Pre-Move Checklist #5

No	Task To Be Completed	Initial
1	Have adequate personnel available for skidding	
2	Hold meeting with all key personnel just prior to skidding, assign supervisors, record topics discussed	
3	Skid sub base transverse and confirm securing arrangements	
4	Skid cantilever / substructure inboard to the normal moving position and confirm securing arrangements	
5	Verify that all pre-move check list have been completed and signed off by the respective supervisors	
6	Verify that all jacking, stability and pre-load calculations have been completed	
7	Verify that the bilge system has been tested	
8	Verify that towing equipment and attending vessels are on location and ready	
9	Just before jacking operations commence have meeting with all key personnel assign leg supervisors, chain of command.	
10	Check radio communications with each leg	
11	Elevate hull 1 to 2 feet to equalize motor torque	
12	Lower hull to 10 feet air-gap (connect tugs / this may vary)	
13	Lower hull to 5 to 7 feet hull draft	
14	Barge supervisor to check and confirm watertight integrity witnessed by either attending warranty surveyor or Transocean attending rig mov	
15	When watertight is confirmed continue with planned move operation	

Figure 5.1.1
Example Pre-Move Checklist #6

No	Task To Be Completed	Initial
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		

5.2 Stability Calculations

The Barge Captain shall produce a full set of stability calculations covering jacking up and down, afloat and pre-load operations. The calculations shall verify compliance with the marine operations manual for all operations. Stability calculations are to be carried out on a Transocean Engineering approved stability program.

5.3 Watertight Integrity

Prior to becoming water-borne, all watertight and weathertight closures other than those normally open during transit conditions shall be secured. The status of closing appliances shall be recorded on the pre-move checklist as well as in the unit's official logbook.

5.4 Sea-fastenings

Before the hull is jacked down into the water, drilling equipment and materials carried on deck should be reduced to a minimum and arranged so that they will not interfere with access or escape routes. Sea-fastenings on equipment must be of sufficient strength to withstand the maximum loading likely to be imposed. Transport quality chain and ratchet type boomers are the preferred way of securing equipment and tubulars. Particular care must be taken to properly secure items in the vicinity of tanks vents or any pipe-work penetrating through the main deck. Drums should preferably be secured in purpose built racks. Heavy items should be secured as far as possible between the cantilever beams.

5.5 Safety Equipment

All safety equipment to be inspected 12 hours prior to commencing Installation move operations. Any special instructions pertaining to lifeboat and life raft use while the unit is afloat shall be discussed with ALL Persons on board.

5.6 General Operations Instructions

General operational instructions while afloat are addressed in each Installation's marine operations manual. Compartment and watertight integrity compliance as described in each unit's marine operations manual shall be strictly adhered to.

5.7 Jacking Systems

The OIM and Barge Captain shall ensure the jacking system, leg rack teeth and leg guides are properly attended and constantly greased during all jacking operations. Although greasing main bearings prior to jacking is a common practice, main bearing greasing is better achieved with the system in operation and with the use of designated high pressure grease units at each leg. In addition any manufacturers recommendations for operation of the elevating system shall be followed.

5.8 Connecting of Attending Marine Support Vessels

5.8.1 Summary

This appendix gives guidance on how towline connections with attending tugs should be handled to provide the safest conditions during this process.

5.8.2 Bow Main Tow Bridle

All self elevating drilling units should be fitted with a chain bridle connected to Smit brackets on the bow area, the chain sections are connected to a suitably sized triangular plate.

A pendant type fore runner wire of sufficient length (100 - 150 feet) is connected to the triangular plate and the connecting end to an air winch wire for deployment and recovery. The air winch wire should be connected at least 20 feet back from the connecting end in order to allow tug deck crews to be able to secure the connecting end in tug's shark jaws or other available deck securing devices and provide sufficient slack to make the connection to the tug's main tow wire. The pendant wire should be at least 60mm diameter.

5.8.3 Port & Starboard Quarters or Stern Wires

All self elevating drilling units should be fitted with Smit bracket on the stern or quarter connecting points and fitted on the hull edge with a closed Panama type fairlead. A chafing chain should be provided from the Smit bracket clear through the fairlead, connected to suitable sized (2 to 3 inch) pendant wires 100 to 150 feet in length with either hard eye thimbles mechanically spliced or closed spelter type sockets.

(SOFT EYE PENDANT WIRES CONNECTED TO BOLLARDS OR BITS IS NOT ACCEPTABLE FOR AN OFFSHORE MARINE ENVIRONMENT AS THEY CAN NOT BE READILY RELEASED IN CASE OF TUG FAILURE)

The towing pendant wires are to be suspended outside the unit's hull with the use of the cranes and secured against the outer hull handrails, **coiling wire on the main deck is a dangerous and un-acceptable practice.**

A pick up sling is to be connected to the pendant wire at least 10 to 15 feet from the pendant end, in order to allow tug deck crews to be able to secure the connecting end in the tug's sharks jaw or other available deck securing devices and provide sufficient slack to make the connection to the tug's main tow wire. The pick up sling shall be new manila rope of 25mm diameter or greater, with a spliced eye termination and maximum 10 feet in length.
The handling sling provides a weak link in case a tug runaway situation occurs, which could cause serious damage to a crane.

Note: Whilst this practise does not comply with QHSE Manual section 4.5.5.4.1 provisions, it has been approved under a management of change process for this specific operation.

The port or starboard side pendant wire shall be passed to an attending tug with the crane.
(THE PRACTICE OF PULLING IN A PENDANT WIRE FROM A TUG OR SLIPPING A PENDANT FROM THE UNIT'S MAIN DECK IS AN EXTREMELY DANGEROUS PRACTICE AND IS NOT PERMITTED)

The pendant wire rope pick-up sling shall be connected to a hook and short steel sling, (20 - 30 feet) which in turn is connected to the crane block.
(SHACKLES ARE NOT TO BE USED BETWEEN CRANE SLING END AND PENDANT WEAK LINK HANDLING SLING AS THEY CAN NOT BE READILY DISCONNECTED AND POSSESS A DANGER TO THE TUG DECK CREWS, THE QUICKEST RELEASE METHOD MUST BE PROVIDED)

In cases where the Smit bracket and fairlead are not within crane reach, a handling tugger winch is to be fitted inboard of the Smit bracket. The wire from the tugger is to be passed through the bracket and fairlead, and outboard to connect to the pennant wire at a point within reach of the crane. The tugger is then used to draw the inboard end of the pennant into the Smit bracket for connection.

6 PULLING LEGS ON PLATFORM LOCATIONS

These guidelines are directed to the OIM and Barge Captain to minimize potential for contact between the Installation's hull and the adjacent platform during leg pulling operations.

The guidelines start with the unit at 5 - 7 feet draft for the watertight integrity check.

- Once the watertight integrity check has been completed, lower the hull to 3 feet over the calculated floating draft, and observe the draft / level indicators for approximately 15 minutes.

- If the legs do not begin to free themselves connect the jetting system to the stern legs and commence jetting. A designated key person shall remain at the stern of the unit and observe movement / clearance between the stern of the unit and the platform.

- If one of the stern legs begins to lose draft while the other does not, continue to jet and pull the opposite leg to keep the unit as level as possible. If the rate of draft loss increases, stop jetting and pull hull back down to an even keel. If the hull draft holds at 2 feet or less over calculated draft and not at 3 feet over calculated, leave that leg alone until the other stern leg reaches the same point.

- If the hull draft remains at 3 feet over calculated draft it may be necessary to start jetting again. A stern leg should not be raised more than 20 percent of the total penetration depth without the other stern leg being free. Once both stern legs appear to be losing hull draft bring them to a level where they no longer lose draft. This would entail raising the hull stern to decrease buoyancy pull on the stern legs, stop jetting on stern legs.

- Commence jetting on the bow leg. Pull down the hull on the bow. This will move the stern of the Installation away from the platform. Once the bow leg is pulling free, allow the bow to lose draft to a point where all leg penetrations are more or less even. Ensure the Installation's stern / platform distance is constantly monitored and reported.

- If all legs lose draft at similar rates the unit should remain clear of the platform.

- Once all the legs are free, bring them to a level that will provide sufficient stiffness to the unit to avoid excessive movement or wallowing in the spud-can holes. At this

time the aft assist vessels are connected and positioned until the proper conditions exist to move off the location.

• Usually at slack tide, continue raising the legs until movement of the unit is observed. The power settings and headings of the attending vessels are adjusted to ensure a straight pull away from the platform. While still in the immediate vicinity of the platform, the legs should continue to be raised without interruption until at least 10ft clear of the seabed to avoid potential contact with pipelines. Thereafter continue raising the legs to the desired towing position and continue with moving/towing operations

These guidelines will vary for each location and are very much depending on leg penetrations, soil consistency and internal resistance and distance between rig hull and platform.

Successful leg pulling is achieved by taking the necessary precautions, necessary time and letting the jetting system do the majority of the work. This together with limiting the amount of over pull, will allow less rapid and less forceful movements of the hull as the legs become free, reducing the possibility of contact between unit and platform in tight fit situations.

7 PROCEDURES UNDER TOW

All operating criteria and guidelines for stability and watertight integrity contained in the Installation's marine operating manual will be complied with.

7.1 Watertight Integrity

Once all pre-move preparations have been carried out and the Installation is deemed "fit for tow", a complete watertight integrity check shall be made with the unit at approximately 5 feet hull draft. All tanks and lower deck spaces, especially those containing through hull fittings shall be inspected by the Barge Supervisor and witnessed by either the Warranty Surveyor or the Transocean rig-mover (if present).

7.2 Hull Draft, Trim, List

Once the Installation is afloat and prior to commencing towing operation the hull draft on forward port and starboard and stern port and starboard shall be obtained and checked for consistency with the calculated afloat loading condition. Any significant discrepancies must be immediately investigated and corrected if required.

7.3 Under Tow Monitoring Requirements

During the tow, conditions shall be monitored on a regular basis and recorded in the move report and or the Installation's official logbook as appropriate. The following items shall be included:

- Status of all closures required to be secured (every 2 hours)
- Draft readings (every 2 hours)
- Tank soundings (every 2 hours)
- Sea-fastening of all deck cargo and equipment below decks
- Status of towing equipment (main, secondary, emergency and recovery system)
- Rig motions (compared with allowable motion parameters)
- Position report (obtained from lead tug - generally every 4 hours)
- Personnel below decks shall be kept to a minimum
- In case of adverse weather situations roving deck parties shall work in pairs and in constant radio contact with the control room

8 WEATHER FORECASTING

Good quality weather forecasting is essential for safe towing operations. The weather forecast services for each move should be obtained from a recognized and reliable weather forecasting service such as Fugro, Noble Denton weather services, Ocean routes or Wilkins weather. Direct communication with at least one forecaster should be possible at all times.

8.1 Weather Services

Weather forecasting services should be contracted to provide the following:

- Both site and route specific forecast
- Transmissions direct to the Installation twice each 24 hours
- Each forecast to provide real time, 24, 48 and 72 hour forecast outlook
- Immediate updates provided in the event of significant change in the forecast
- Receipt of the first forecast to be received 24 hours in advance of move commencement

8.2 Weather Forecast Data

Weather forecast data shall at a minimum contain the following information. Information for wind wave and swell components should contain the combined sea.

- Synopsis of weather system
- Wind speed and direction
- Wave height, period and direction
- Swell height, period and direction
- Current speed and direction
- Special remarks, thunder storms, rain, fog etc.
- Confidence level of the forecast (high, medium, low)

9 JACKING OPERATION PLANNING

Preparation and testing of the Installation's jacking system shall be conducted in accordance to the unit's marine operations manual and jacking system manufacturer's recommendations.

Just prior to jacking operations, a meeting with all personnel involved shall be conducted to review jacking procedures and safety precautions associated with jacking the unit. In this meeting the OIM and Barge Supervisor shall clarify individual's responsibilities and tasks to be performed.

Each leg supervisor will have direct communications with the jacking panel operator and be responsible for directing lubrication operations, notification of any abnormalities and noting draft and leg position readings as requested.

10 LOCATION APPROACH AND FINAL POSITIONING

10.1 Planning

At the pre-move meeting held prior to commencement of Installation move operations specific details regarding the Installation's location arrival and approach shall be determined. Dependent upon an open or platform location the following topics should be reviewed:

- Safe distance from field installations
- Pipeline identification and marking requirements
- Weather criteria

- Approach plan including intended rig heading at open locations
- Initial leg pinning
- Reposition of Installation to a standoff location
- Adjustments to raw water tower position as required
- Attending vessel disconnect and reconnect procedures when anchors are run
- Anchor deployment procedures (where required)
- Anchor pattern (where required)
- Bottom disturbance due to previous units on location, including sliding problems
- Measurement techniques and acceptance criteria and tolerance for final unit position
- Divers and / or R.O.V. requirements

10.2 Marine Support / Towing Vessels

The marine support / towing vessels availability for each individual Installation and area of operation shall be reviewed prior to the start of each move. As a general guide, units can be positioned on open locations with the use of two (2) attending vessels. For platform locations, approach and final positioning will generally require three (3) attending vessels. Where it is anticipated that strong currents will act on the legs as they are lowered (generally in water depths greater than 55m) towing vessels of higher capacity than normal may be required to maintain full control of the Installation.

10.3 Obstruction Clearance

When crossing pipelines or other subsea structures, an overall clearance of 30 feet or half the available water depth (whichever is less) shall be maintained below the spud-cans. Leg lowering should not commence until a horizontal clearance of 50m (where possible) has been obtained from any obstruction.

Pipelines in close proximity to the Installation shall be marked with buoys clearly identifying the distance and direction. Where spud-can / pipeline clearance is less than 10m, adequate separations shall be verified and confirmed by divers or R.O.V. prior to lowering the leg.

10.4 Tides

The magnitude and direction of tidal flow shall be assessed for potential effects on final positioning onto a platform. The final approach of the Installation to the Platform should be scheduled to coincide with either slack tide or tidal flow running away from the platform.

10.5 Motions

Installation motions can have a major role in final positioning onto a platform. Motions should never exceed the allowable motions described in each unit's marine operations manual. In cases where close proximity between the Installation and Platform exist more onerous motion limits might be required to reduce the risk of collision.

To mitigate the risk of collision between an Installation and Platform final positioning shall not commence until Tidal and Motion limiting criteria is understood and agreed by all responsible parties .

10.6 Anchors

When anchors are deployed, an exclusion zone of 100 meters from pipelines or power cables should be maintained as far as practical. In cases where anchors need to be placed within this exclusion zone, the position of the obstruction and the proposed anchor drop position in relation to the obstruction shall be positively identified and confirmed by the field operator. Pre-installed anchors are preferred to deploying the rig anchors in such circumstances. Where pipeline or cable positions cannot be confirmed it may be preferable to avoid the use of anchors in the vicinity of obstructions and rely on towing vessels only.

As a general rule, anchors that are deployed crossing pipelines shall be secured on the anchor handling vessel's deck during crossing. The anchor tail chain or wire shall be suitably secured typically in a shark jaw type arrangement or suitable sized pelican hook.

10.7 Final Positioning

On an Open Location, once the Installation is pinned in the final position, position acceptance shall be obtained from the on-board Company representative.

On a Platform Location, after the unit is pinned in the final position measurements shall be taken to confirm that the drilling package can reach the scheduled well slots in longitudinal and transverse directions. This process shall be repeated after the unit is elevated to minimum air-gap and as penetration occurs during pre-loading. Position acceptance shall be obtained from the on-board Company representative prior to the commencement of pre-loading.

On a Platform Location, during elevating operations and during the initial stages of leg penetration, the relative position and distance between unit and platform shall be monitored to ensure that position tolerances are maintained.

11 PRE-LOADING

11.1 General

Initial leg penetrations will depend on the soil conditions, the person in charge of jacking must be vigilant and ensure that the unit remains level within 0.2 degree in all directions.

11.2 Bore Hole Operations

Depending upon the results of the site assessment it may be required to conduct coring or pilot hole drilling operations prior to pre-loading, in such cases the unit shall remain at draft or minimum air-gap subject to suitable weather conditions. Detail procedures for these activities are prepared on a case by case basis, which should specify the appropriate weather limitations.

11.3 Pre-load Operations

Pre-loading must be performed immediately following the move onto a new location or after completion of coring / pilot hole drilling operation. This operation replicates as nearly as possible the maximum on-bottom loading condition that may occur during storm conditions. Each Installation shall be pre-loaded either in accordance with the Installation's Marine Operations Manual requirements or as directed by site specific data generated or approved by Houston Engineering.

Pre-load operations are strictly conducted at minimum air-gaps with an absolute maximum allowable air-gap of 5 feet above the wave crest. Due regard shall be extended in calculating the tidal rise or fall. In cases where large tidal ranges exist it may be necessary to develop special pre-loading procedures.

The towing vessels may be disconnected prior to commencing pre-loading operations, but at least one of the attending vessels must remain in close proximity to the unit and be on full alert rapid response stand-by in case rapid settlement or punch through should occur.

During pre-loading operations all required afloat closures are to remain secured. All cranes booms are to be racked and secured. No crane movements are allowed.

Helicopter operations should be suspended during pre-load operations. If a landing Is required in an emergency, pre-loading operations shall be suspended and 5 percent of pre-load dumped to compensate for the helicopter landing and take-off weight. Helicopter landings are not permitted during pre-load holding periods

11.4 Pre-loading Procedures & Minimum Holding Times

The pre-loading procedure and holding period are dictated by the actual soil conditions encountered on each location. Generic Minimum pre-load holding times, during which time the unit is not to settle, are indicated in Figure 11.4 below for different geographic areas. Individual site conditions may require increased times or justify reduced times from these typical values.

Figure 11.4
Typical Preload Holding Times

Operating Area	Hard soils	Soft soils	Punch-through
Africa	2hrs	4hrs	6hrs
Middle East	1hr (reentry) 2hrs (new)	4hrs	6hrs
Mediterranean	3hrs	6hrs	6hrs
Caspian	-	6hrs	6hrs
Southern North Sea	2hrs	-	-
Brazil	3hrs	4 hrs	6 hrs
US Gulf	-	6 hrs	6 hrs
SE Asia	3hrs (without crust) 6 hrs (with crust)	6hrs	6 hrs
Australia	2hrs	4hrs	6 hrs

In deep soft clay soils where consolidation occurs, a rate of creep not exceeding 0.1 degree per hour in the second half of the pre-load holding period is generally acceptable. HOWEVER, this rate of creep is not applicable when soil of significantly weaker strength is present below the final level reached by the spud can. Requests by Rig Management for reduced pre-load holding time will be considered by Engineering on a case by case basis. Granting of such requests is dependent upon evaluation of geo-technical, environmental parameters and field operating experience. Supporting data must accompany the request.

Upon completion of pre-loading operations, the final leg penetrations are to be recorded and compared with site assessment predictions. Any anomalies are to be reviewed and recorded. In cases of doubt or concern, the Regional / District Manager is to be consulted.

12 CONTINGENCY & EMERGENCY PLANS

12.1 Contingency Plans

Contingency plans should be presented and agreed upon at the pre-move meeting. Contingency & emergency plans should be prepared at a minimum for the following potential hazard scenarios:

- Excessive weather conditions
- Towline breakage or failure of towing fitting
- Attending tug(s) propulsion or equipment failure
- Navigation or positioning equipment failure
- Water ingress on board the unit
- Failure or deficiency of raw water/cooling water supply
- Unit's loss of main power
- Uncontrolled settlement / Punchthrough
- Jacking system failure (electrical or mechanical)
- Shallow gas (where pilot hole drilling undertaken)

Contingency plans should address:

- Secondary or emergency towing arrangements that is readily deployed and recovered by the attending vessels
- Suitable alternate jacking locations or areas of refuge should be determined
- Procedures to release attending vessel in case of propulsion or equipment failures
- Available salvage equipment on the Installation, alternative means of pumping out compartments, available means to patch openings to the environment
- Available and alternate means to partially or fully evacuate personnel.
- Available and alternate means of escape or rescue (as required).
- Availability of helicopter and refueling facilities for emergency assistance or medivac.

13 SCOUR

13.1 General

Scour can occur in areas of sandy soils subject to currents in excess of 2 knots. In many cases high currents occur during spring tides and during storms. The risk of scour is particularly high when spud can penetration into the seabed is less than the depth of the maximum bearing area of the spud can.

Scour prevention methods (sandbagging or prelaid gravel bases) are to be provided at locations where major scouring of surface sands could cause the rig to settle catastrophically into underlying softer soil that is unable to adequately support the rig.

If the Installation is supported on a foundation where scouring or erosion will not adversely affect the foundation integrity, the Installation may be re-leveled should minor settlement attributable to scouring occur.

13.2 Inspection

If the final spud-can penetration is less than the spud-can height at full spud-can diameter there is potential of scouring. This is especially true in soils with coral / boulder outcrops. In such conditions an initial inspection of all spud-cans shall be made by means of divers or R.O.V. within one week of the unit's arrival. Checks shall thereafter be conducted at intervals not exceeding one month. Reports of scour inspections shall be submitted to Rig Manager and Regional management for review.

Spud cans with penetrations of 4m or less into sandy soils in general should be inspected for scour following severe storms with wind speeds of 50knots or sea states of 7.5m or more.

14 MINIMUM TUG INSPECTION RECOMMENDATIONS

14.1 Summary

Figure 13.1 provides a Minimum Tug Inspection format recommended for all anchor handling tugs or anchor handling tug supply vessels presented to Transocean self-elevating drilling installations for an in-field location move. All presented vessels shall be inspected prior to commencing move operations by the Barge Supervisor and/or

attending Transocean rig mover and witnessed by a marine warranty surveyor (if in attendance) or by the OIM. As a general guideline any presented vessel that can not produce valid flag state and or classification society certification shall be un-conditionally rejected.

As general policy only vessels with a minimum of two independent propulsion units are acceptable for towing any Transocean self elevating drilling unit.

Any vessel presented for a single vessel tow must possess a spare tow wire capable of rapid deployment. Actual as opposed to original tow wire lengths should be ascertained.

14.2 Items to be Inspected

During inspection of older vessels and / or vessels in apparent dubious condition, particular attention shall be paid to the condition of towing winch, towing wire, towing wire certification, bollard pull certification and visual condition of main engines and general engine room condition during these inspections. Thruster performance and functionality of navigation and steering gear is to be checked.

Maximum continuous engine revolutions should be verified, and in tropical areas verification of the operating efficiency of the engine cooling system under maximum load should be made.

Specifically in benign areas around the tropical latitudes, an older fleet of vessels exists, whose owners and operators will typically present the technical specification of such vessels as in new condition and in particular quote the original brake horse power BHP and bollard pull BP rating. These doubts can be diminished if recent authentic bollard pull test certificates are available. Where this is not the case, a general guideline is that a vessel built vessel15-20 years ago as a 4000 bhp/45 ton BP would today realistically produce 75 percent of those ratings if properly maintained. Inspectors are advised to calculate total available bollard pull from such vessels on the basis of 75 percent efficiency of new listed specifications. The combined bollard pull for a specific area of operations must still meet underwriter's requirements.

Inspectors are to place close attention to the general appearance of a presented vessel. An older vessel well organized and maintained and with an apparent trained and responsible crew will perform better than a new vessel apparently poorly maintained and cared for.

Figure 14.1
Minimum Tug Inspection Checklist

Vessel Name	
Registered Owners	
Vessel Type	Tug / Anchor Handling Tug / Anchor Handling Tug Supply
Flag	
Port of Registry	
Classification	ABS / Lloyds / BV / GL / DNV / Rina / Other -
Class Notations	
Year Build	
Builder	
Length/Beam/Depth/Draft	
Gross tonnage	
Net tonnage	
Main Engines	No: Make: Type: BHP: BP:
Propulsion	No: Make: Type: fixed/cpp Nozzles: yes / no
Rudders	No: Make: Type: fixed / independent
Generators	No: Make: KW:
Bow Thrusters	No: Make: BHP: Thrust:
Stern Thrusters	No: Make: BHP: Thrust:

Towing Winch	Make: Max Pull: Drum 1 Capacity:	Model: Max Brake: Drum 2 Capacity:	Hydraulic / Diesel No of Drums: Drum 3 Capacity:
Main Tow Wire	Diameter:	Length: Break Strength:	Certified: yes / no Cert. No:
Spare Tow Wire	Diameter:	Length: Break Strength:	Certified: yes / no Cert. No:
Work Wire	Diameter:	Length: Break Strength:	Certified: yes / no Cert. No:
Pendant Wire	Diameter: No Available:	Length: Break Strength:	Certified: yes / no Cert. No:
Shackles	Type Amount: SWL Certified: yes / no Cert. No:	Type Amount: SWL Certified: yes / no Cert. No:	Type Amount: SWL Certified: yes / no Cert. No:
Shark Jaws	Type: No: single / double set	Max. Load: Ton	Tow Pins: yes / no Type: No: single / double set
Pendant Storage Reels	No:	Capacity: #1 #2 #3 #4	

Figure 14.1
Minimum Tug Inspection Checklist
(continued)

Certificate Name	Number	Date Issued	Expiry Date	Endorsement Date
Certificate of Nationality or Registry (flag state) **				
Minimum Safe Manning Certificate (flag state)				
Radio License (flag state) **				
Certificate of Class Hull & Machinery **				
International Load Line Certificate **				
Tonnage Certificate (this cert. has no expiry date)				
Cargo Ship Safety Construction Certificate				
Cargo Ship Safety Equipment Certificate				
Cargo Ship Safety Radio Certificate				
International Oil Pollution Prevention Certificate I.O.P.P. **				
Bollard Pull Certificate	Issued By:	Date of Test	Maximum	Continuous

Rig Name : _____ Location Move Number: ____ Area of Operation: _____

Inspection Carried Out By:_____

Position : O.I.M. / Barge Supervisor / Transocean Rig Mover

Date & Place: ____ / _____ / 2001 / _____

NOTE: ANY VESSEL PRESENTED FOR INSPECTION THAT DOES NOT HAVE THE ABOVE MANDATORY CERTIFICATES PRESENT (MARKED AS **) OR IN VALID DATES SHALL BE REJECTED FOR TOWING AND OR ANCHOR HANDLING OPERATIONS. VESSELS WITHOUT BOLLARD PULL CERTIFICATES OR WITH CERTIFICATES OLDER THAN 5 YEARS SHALL BE DOWN RATED TO 75% OF THE VESSEL'S ORIGINAL SPECIFICATIONS OR OLD BOLLARD PULL TEST RESULTS

1 GENERAL

These guidelines recommend minimum qualifications and training of Self-Elevating Installation Movers. Transocean's goal is the assigned Installation Barge Supervisors and OIMs become suitably trained and qualified as "Approved" Self-Elevating Installation movers. This will reduce the need for regular attendance by an independent Underwriters Warranty Surveyor.

2 MINIMUM STANDARDS PRIOR TO QUALIFICATION

2.1 Required Training and Experience

Self-elevating Installations movers should be able to demonstrate a minimum level of training and experience as indicated below:

- Minimum 5 years working experience as Barge Supervisor or equivalent.
- OIM license for bottom bearing units.
- Advanced stability course.
- Independent leg rig moving course (if applicable).
- In full command, conduct 1 Self-elevating Installation move on open location witnessed by a qualified rig mover.
- In full command, conduct 1 Self-elevating Installation move onto a platform location witnessed by a qualified rig mover.
- In full command, conduct 1 Self-elevating Installation move, witnessed by an independent qualified person representing the Warranty Survey organization which will issue the rig mover certification for a particular unit or class of unit's. The Warranty Surveyor may elect to limit Certification to "Open Locations Only" if experience and witnessed mobilization does not support "unlimited" Certification.

As the safety of Transocean personnel and equipment are dependent upon the decisions of Self-elevating Installation Movers, a written recommendation from the Installation Manager is required. It is recommended that an interview by the Regional Operations Manager and Regional Marine Advisor (if assigned) also be conducted.

3 TRAINING

In conjunction with the regional training centers, a training matrix should be developed for selected Self-elevating Installation Mover candidates. The training matrix will include an overall time line for individual completion of theoretical requirements i.e. advanced stability course, attending Installation movers school (similar to that provided by Dutton's Navigation) and conducting supervised rig moving operations.

It is recommended candidates practical on board training be assessed periodically by Regional Marine Advisors (if assigned) or Underwriter's Warranty Surveyors who will evaluate and report on performance and recommend when a candidate is ready to be certified.