SOP-GEN-001 Bridge Procedures

1.0 Introduction

This SOP describes the bridge procedures, including the Captain's standing orders for the vessel, to ensure the good practices of our seafarers, improve navigation safety and protect the marine environment. The following procedures follow international guidelines described in the ISM Code, STCW, U.S. Coast Guard or equivalent foreign license, and recognized good seafaring practices.

2.0 Policy and Responsibility

The Captain has overriding authority and responsibility for the safety of life, the safety of the ship and environmental protection. However, the Captain may delegate authority in matters of navigation to the officer of the watch (OOW). Additionally, when a pilot boards, the Captain may delegate the conduct of the ship to the pilot, bearing in mind the local pilotage legislation. The maintenance of a safe navigational watch at all times and good voyage plans are core to good operating practices.

The vessel shall be manned according to the Safe Manning requirements specified by the vessel's Safe Manning Letter from the appropriate Flag State**.** The vessel will be navigated safely in compliance with the COLREGS. The vessel will be operated in a manner that ensures the safety of the crew and vessel and that operations are geared toward protecting the environment. Voyage plans will be prepared to assess the safest and most economical sea route between ports and are the basis for navigation. Detailed voyage plans, particularly in coastal waters, port approaches and pilotage area, are needed to ensure margins of safety.

3.0 Definitions

- **Captain**-officer having command of ship
- **Chief Mate**-officer next in rank to the Captain
- **Officer**-member of crew, other than Captain designated as such
- **Chief Engineer**-the senior engineer officer responsible for the mechanical propulsion, operation, and maintenance of the mechanical and electrical installation of the ship
- **Engineer Officer**-officer qualified in accordance with provisions of international standards
- **OOW**-officer of the watch, on vessels owned or operated by TDI-Brooks this must be a qualified licensed officer
- **Crew**-seafarers and apprentices
- **Seafarer**-any person who is employed or engaged in any capacity on board a ship on the business of the ship
- **ISM Code**-the International Safety Management Code, which was adopted by the International Maritime Organization provides an international standard for the safe management and operations of ships and for pollution prevention

- **COLREGS**-convention on the International Regulations for Preventing Collisions at Sea, 1972 as amended
- **International Convention on Standards of Training, Certification and Watchkeeping** for Seafarers 1978m as amended in 1995, 1997, 2010 (STCW Convention)
- **Company**-owner of the ship
- **Safe navigation**-the ship is not exposed to undue danger and that the ship can be controlled at all times within acceptable margins

4.0 Bridge Resource Management

4.1 Navigational Watches

The bridge will be manned with an adequate number of navigational lookouts at all times according to the STCW code and operational conditions of the vessel. The vessel shall be navigated safely in compliance with the COLREGS and to ensure that the marine environment is protected. The Captain will evaluate the requirements of the navigational watch depending upon visibility, weather, seas, traffic, other activities within the travel area, and ship's workload, crew's experience, ship's handling capabilities, and general fitness. The bridge is not to be left unattended. The watch keepers will maintain constant vigilance by sight, hearing and all other available means to monitor any significant changes in the operating environment.

4.2 Bridge Team

All ship's personnel who have bridge navigational watch duties will be part of the bridge team. The Captain and pilots, if necessary, will support the team, which will be comprised of the OOW and look-out as required. The bridge team will keep the Captain fully informed. Should the vessel require the services of a pilot, he becomes a member of the bridge team. The bridge team understands that they are required to meet the following directives.

4.3 General Guidelines for Watch Keepers

- The safety of life and safety of the ship are their priority, followed by pollution prevention.
- New personnel assigned watch-keeping duties must receive adequate training and familiarization so that they are fully acquainted with all equipment and procedures.
- Watch keepers must acknowledge that they understand the duties and tasks assigned to them.
- Watch keepers will have adequate rest periods according to STCW Code.
- Watch keepers are not permitted to consume any alcohol while on board any vessel at any time.
- The OOW may be the sole look-out in daylight conditions and if there are no unusual circumstances that may compromise their effectiveness.

- The OOW shall be fully qualified in accordance with STCW.
- Watch keepers shall be aware of any collision and stranding risks as well as any other dangers to navigation.

4.4 Officer of Watch

The officer of the watch (OOW) is in charge of the bridge and the bridge team for the watch. The OOW must have knowledge of written and spoken English that is adequate to understand charts, nautical publications, meteorological information and messages concerning the safety of the ship. The OOW must also be able to communicate with other ships and coast stations. The OOW must also understand the following to ensure safe navigation of the vessel.

- Chart and nautical publication correction procedures
- Procedures that ensure that all navigation equipment is fully operational
- Emergency response procedures
- Accident and near miss reporting
- Voyage event and bridge log entry requirements
- Company contacts
- Voyage planning requirements
- Handover procedures at crew changes
- Navigation gear, electronic aids to navigation, navigation lights panel, GMDSS radios, radars, automatic foghorn control and other necessary gear
- All steering systems and any other gear located on the bridge
- Bow thruster operation
- Emergency equipment on bridge including emergency light switches, fire detection systems, ventilation shut downs, fuel shut off valves, etc.
- Station bill

5.0 Captain's Standing Orders

5.1 General

Each Captain is to sign and post his/ her own standing orders. ALL licensed bridge personnel are required to read and sign the Captain's standing orders.

The following information should be included in the Captain's standing orders.

5.2 Bridge Watch Schedule

Position	Time
Captain	
Chief Mate	
Second Mate	

5.3 Lookouts/Watch Standing

- At all times during dark hours and whenever deemed necessary a proper lookout by sight, sound, and all available means under the prevailing circumstances – shall be maintained. Utilize radar and binoculars to help identify possible problems early on. Personnel posted on lookout duty will have no other responsibilities or workload placed upon them. When any doubt arises concerning the safety of the vessel, or of their own ability to maintain a proper lookout they will advise the Officer Of the Watch (OOW).
- When it is determined that an approaching vessel will pass in close proximity, adjust your heading, or speed as necessary to maintain safe passing distance of at least 1/2 mile in daylight and a minimum distance of 1 mile at night. At night when passing an offshore platform or other stationary structure a CPA of one mile will be maintained to avoid possible mooring buoys or other hazards that may go undetected. In poor visibility such as fog or rain these distances shall be double the above stated requirements.
- When another vessel's intentions cannot be ascertained, and communication cannot be established via marine radio (VHF), the bridge officer should alter course and speed in enough time to avoid a close quarters situation with such a vessel. Course changes should be large enough to make your intentions readily apparent to the other vessel. Use the horn or spotlight to gain the other vessel's attention. If necessary, stop or reverse your engines. Consider reversing your course, and steaming away from such a vessel, if it is safe to do so. Do not hesitate to summon the Captain. Be alert for possible hostiles/ pirates.
- In the event of collision or eminent collision, fire, explosion, unexpected list, man-overboard, or other casualty, the officer of the watch should not hesitate to sound the **general alarm in a long continuous fashion** to summon all personnel to their assigned stations or muster area. Proceed as outlined in the ship's station bill.
- Maintain a continuous watch on international and local radio frequencies. Monitor the radar, navigation displays, and all bridge indicators.
- Maintain logs as described in the bridge procedures manual.
- Be on the lookout for pollution and safety violations as per HSE policy.
- Never leave the bridge unmanned. If it is necessary stop the boat, display the "Not Under Command" lights/ shapes, and place lookouts.
- **Never hesitate to summon the Captain when in doubt of the overall safety of the situation**. Maintain good situational awareness.
- As much as is practicable - hourly position fixes shall be maintained in the ships log while underway. All efforts shall be made to verify your position by means of radar, depth recorder, sightings/ bearings, and/or dead reckoning.

At the beginning of each watch:

- Compare gyro and magnetic compasses, log the local variation, and determined deviation.

- Check the status of all electronics, and radios – see that all safety frequencies are being properly monitored. Check to see that the radars are properly tuned.
- Conduct a toolbox meeting with the individual you are relieving to find out about local traffic, currents, weather outlook, vessel status in general or other special circumstances.
- Check that proper lookouts are posted.
- Make a visual inspection of the running lights and/ or day shapes, flags/ halyards, and the vessel's perimeter looking for anything out of the ordinary [hanging lines, etc.].
- Do a visual inspection of the surrounding area making yourself mentally aware of your situation, and juxtaposition with any local traffic.
- Try to obtain a weather report/ forecast if a recent update is not already available.
- Check the vessel's autopilot system. See that it is properly tuned for the current weather conditions. Visually observe that it is tracking properly, without undue rudder activity (over steering).
- Steering pumps shall be alternated once every 24 hrs.
- Make contact with the engine room and other departments to determine their status, and become aware of any new developments. Use the inter-ship communications system to be sure it is functioning properly.
- Check the plot and planned route making reference to the most detailed chart for your current position. Check for possible safety concerns – buoys, rigs/ platforms, shoals, submerged obstructions, etc.
- Check publications such as Notices to Mariners, Sailing Directions, Coast Pilots for any general or seasonal warnings for your vicinity.
- Throughout the watch avoid complacency. If practicable make short forays to different parts of the vessel – notify the lookouts that you are doing so. Be alert for unusual sounds or vibrations, smells such as fuel oil, or electrical odors. Be alert to the vessel's trim or any unusual sluggishness, or engine RPM changes. If anything unusual is noted have a crewman or engineer investigate further and report back to you on the bridge. Investigating these subtle signals may be the key to avoiding disaster.

5.4 Vessel Security

Security has become a more rigorous and formalized system with the implementation of the International Ship and Port Facility Security Code (ISPS) and SOLAS Amendments of 2002.

Each vessel required has a security plan that has been approved by the Flag State Administration. Each plan was developed in accordance with the ISPS Code in that a ship security assessment was conducted from which a ships security plan was written and approved. The plan makes for provisions for the three security levels defined in the Code (MARSEC 1, 2, and 3). TDI-Brooks has a designated Company Security Officer and each ship has a designated Ship's Security Officer. The Security Plan also acknowledges the recommended training programs, drills and reporting requirements. Refer to the ship's security plan for details.

The Captain is responsible at all times for the provision of **safe gangway access** to the vessel and will include guidance on how this may be achieved in the Captain's Standing Orders.

5.5 Science Operations

- When on station, the OOW shall remain on the bridge. The OOW may call out for another seaman to stand watch if he is in doubt as to the safety of conducting operations without a seaman stationed on the bridge. Other seaman may be on deck to operate winches, cranes, or help launch or recover science gear.
- Science operations in heavy weather, ice, or concentrated vessel traffic are at the discretion of the Captain.
- Science operations in close proximity to land, structures, obstructions or shallows shall not be conducted without the Captain's knowledge and approval. Be aware that a change in waypoints from the chief scientist must be checked on a chart and determined to be safe.
- Safety is the primary concern aboard this vessel. Call the Captain any time if in doubt as to the safety of science operations. The OOW has the authority and responsibility to halt any science operation that appears to be unsafe. For example, tag lines improperly used, improper PPE, lifting issues or insufficient personnel.

6.0 Under Keel Clearance

These guidelines for minimum UKC apply during normal weather. Severe weather or other abnormal conditions may demand a case-by-case evaluation. Captains shall use prudent seamanship at all times when piloting their vessels.

MINIMUM UNDER KEEL CLEARANCE (UKC)

- For vessels under 150 feet in length, 10 feet minimum UKC shall be maintained
- For vessels over 150 feet in length, 15 feet minimum UKC shall be maintained.

Note:

1. Gyre has moon pool fairing 3 feet below keel and may have USBL pole extended in forward or aft moon pool.
2. Proteus is equipped with a gondola extending 3 feet below the keel. However, this is not the lowest point.
3. Emma McCall may have USBL extended below the keel or over the side.
4. Brooks McCall may have USBL extended below the keel or over the side.

The above UKC minimums are before correction for roll and pitch.

When a vessel is on work location, and a client/ job scope expects a lesser UKC value, a Management of Change process should be followed with approval from the Port Captain.

The above guidelines are intended to include safety margins for sinkage due to vessel squat and for an increase in draft due to pitch and roll during the weather and sea state conditions normally encountered.

These guidelines will include a minimum water Under Keel Clearance of 6 feet at Mean LOW WATER while in a port.

7.0 Bridge Order Book (Captain's Log)

The Captain will maintain a captain's log to record specific instructions not covered in the Captain's standing orders. Instructions and comments to the OOW are also logged.

8.0 Voyage Planning

8.1 General

Voyage planning is necessary to support the activities of the bridge team and to ensure that the vessel is navigated safely between ports from berth to berth. The voyage plan will cover ocean, coastal, and pilotage waters. Circumstances may necessitate alteration of the voyage plan, but alterations should only be done in a controlled manner and communicated to **Port Captain**. The voyage plan uses all available information from publications, charts and any other local knowledge

8.2 Voyage Planning

- Are the necessary corrected charts and publications available for the voyage area?
- Plan checkpoints so that position can be verified.
- Do not use offshore installations as waypoints.
- Annotate congested or restricted areas and underlying obstructions.
- Keep notes on local reporting regulations, traffic checkpoints, and radio frequencies used. Note when you are required to report and have the pertinent information on hand: number of people on board, fuel, oil, water, cargo, passengers, tonnage, destination, owners info, operators info, agent info, last port of call (and the date of departure), official numbers, call sign.
- Use weather information, and pilot charts that provide seasonal prevailing conditions that may help to avoid the risk of unsafe weather conditions. Take note of prevailing currents that may hamper or aid your progress.
- Additional considerations of security should be considered. Avoid voyage through high risk areas where acts of piracy have been reported.
- Calculate time and estimated distances involved for the voyage. Take into account the possibility of harsh weather and/ or unfavorable currents. Calculate fuel, oil and water requirements based on these figures. Add a "padded" amount, usually 10% as a contingency.
- The planned track should show the true course of each leg of the voyage

- The distance of each leg should be shown.
- Verify that the proper flags are on board for the primary destination as well as any identified alternate destinations.
- Ensure that the voyage plan will allow for collision avoidance in accordance with COLREGS.
- File a voyage plan with the home office prior to sailing.

8.3 Pre-Sail Checklists

Prior to departing for a voyage, the following preparations steps are recommended.

- Notify all appropriate authorities of impending departure and secure all permissions/ authorizations.
- Generate a Persons on Board (POB) list with appropriate identification numbers and emergency contact numbers.
- Ensure that all new crew and non-crew members have been given an appropriate induction and tour of the vessel (required, SOLAS Ch. III, Reg. 19, Pt. 2.1).
- Conduct a pre-sail orientation and safety meeting so that all personnel are aware of the location and use of the vessel's safety/ emergency equipment, ship's policies, Station Bill, escape routes and muster areas.
- Check running lights, spot lights, and indicator/ instrument/ panel lights.
- Check life rafts, life rings, and strobes/ smoke buoys are in place and properly stowed.
- Check that the proper flags are hoisted and that halyards are secured.
- Check that radar scanners are clear from obstructions.
- Inspect all other antennas and ensure they are secure and well mounted.
- Inspect mast and rigging is in good condition and secured.
- Check anchor winch and that anchor is at ready.
- Check day shapes where applicable.
- Check bell, horn and whistle (required, 46 CFR Pt. 131.505).
- Check that radios are functioning and set to proper frequencies.
- Test portable (hand held VHF) radios that they are functioning properly.
- Test communications between bridge and engine room (required, SOLAS Ch. 5, Reg. 20, Pt. 2.3).
- Test steering gear (required, SOLAS Ch. V, Reg. 26, Pt.1&2).
- Log draft (required, 46 CFR Pt 131.510).
- Check that flash lights and emergency lights are working properly.
- Check that safety equipment is in place and ready for immediate use.
- See that the EPIRB is in place and properly mounted for deployment.
- Check and log compasses: gyro, magnetic, gyro repeater in the bridge office is turned on and properly aligned. Check that the latitude settings for the gyro are set correctly.
- Check and log that the Global Maritime Distress and Safety System (GMDSS) is functioning properly.

- Once engines are running check tachometers, and gauges are working properly. Momentarily engage clutches to see they are responding. Check control air pressure.
- Turn on steering system and test rudders and rudder angle indicator.
- Once the bow thruster is started, rotate the head, and test the clutch/ throttle.
- Turn on radars, [and if possible] test and tune the radars.
- Turn on and test AIS and all navigation electronics. Check to see that the set-up is correct.
- See that the fathometer is functioning properly and the settings are correct.
- Have a sailing/ voyage plan in place and logged in the ship's log.
- Have the proper charts readily available, along with any needed plans, notes, or publications.
- Check that equipment and any loose objects on the bridge are secured in case rough weather is encountered.
- Check that port clearance documents are on board (if applicable), and any other necessary paperwork is on board.
- Do a sweep of the vessel for stowaways or unwanted passengers.

8.4 Prior To Casting Off

- Check that all personnel on board are expected / required on board and see that any person not having intentions of sailing has departed the vessel.
- See that all lockers, watertight doors, and hatches are secured.
- See that any loose objects, equipment, hazardous materials, deck gear, or cargo is secured.
- See that the winch and crane are secured.
- See that the gangplank is properly stowed and secured, and all safety chains have been reconnected.
- See that any and all shore facilities are disconnected (water hoses, power cables, etc.) and secured.
- See that there are no loose lines, rigging, cables, scaffolds, etc. hanging in the water or over the side.
- See that there are no obstructions or floating debris around the vessel.
- Notify the engine room.
- Conduct **JSA** for Mooring operations with all parties involved.
- Have proper lookouts in place, and see that the mooring lines are properly manned. Check that these personnel are wearing proper PPE gear.

8.5 Immediately Upon Departure

- Activate radars, if in standby modes.
- Once clear of the quay, verify that all mooring lines are properly stored.

8.6 Once in Open Water

- Secure anchor windless for transit.
- Notify port authorities that you are cleared out of port system and set radios to proper standby frequencies.

8.7 At Sea

- Within the first 24 hours, send a Ship Position Report to the home office at **DPR@tdi-bi.com** and every 24 hours thereafter. Within the first 24 hours, the general alarm should be sounded and an Abandon Ship drill held. Drills of a more specific nature shall be conducted weekly after this. **All drills shall be logged in the bridge log book and the Quality and Compliance program.**

8.8 Returning to Port - Planning

Notify the intended port at least 72 hours prior to arrival. Some ports may require a longer notice period prior to arrival to ensure that the vessel will be received. Prior to arrival in port, consult on board publications concerning routing, water depths, traffic separation schemes, hours of operation, reporting points, pilotage, anchorages, restricted areas, seasonal weather issues, tidal information, and security. Contact ship's agent and port authorities for any additional information.

For ISPS compliant ports, all information concerning the vessel's security status and previous ten port calls, and other relevant information (consult the Security Plan for details) will need to be forwarded. Each port may have a different reporting format so ensure that the information is provided on an approved form.

Additional documents that are typically required upon entering a port are:

- Crew list
- List of port calls
- Ships particulars
- Ships stores
- Unmanifested cargo
- Cargo nil list
- Declaration of security
- List of personal items for each person aboard
- Vaccination list
- Medical inventory or pharmaceuticals
- Clearance papers from previous port call

All documents for the port call will need to be stamped with the ship's official stamp. All documents except the lists of personal items will need to be signed by the Captain. The list of personal items will need to be signed by the individual.

Prior to generating a plan for port arrival, review all publications and charts with information about the port.

- Communicate with port authorities for any local information.
- Plan a few checkpoints so that position can be checked with radar, echo sounder or by sight/ bearing.
- Annotate congested or restricted areas and underlying obstructions.
- Document local traffic reporting regulations, traffic checkpoints, and radio frequencies used in local traffic coordination.
- Note when it is necessary to report, security status, number of people on board, fuel, oil, water, cargo, passengers, tonnage, destination, owner's information, agent information, date of departure of last port call, official numbers and call sign.
- Potential security issues need to be considered. Security awareness should be discussed at a safety meeting prior to arrival in the port.

8.9 Port Entry Preparations

Ensure that all appropriate flags are hoisted, including vessel Port State flag, visiting country flag and quarantine flag, if necessary. While approaching the port, perform the following checks.

- Sweep of the vessels perimeter to ensure that mooring lines, cables, straps are in their proper position and secured.
- Verify that all outlying survey gear has been properly stowed.
- Conduct **JSA** for mooring operations with all parties involved.
- Brief the crew so that all understand their job during mooring operations.
- Verify that communications with the deck are effective so that orders can be clearly understood.
- Test internal ship communications and make contact with the engine room.
- Verify that the main engine gear boxes are working properly.
- Test steering controls.
- Anchor gear in good working order.
- Check running lights and day shapes.
- Check bridge electronics, including echo sounder.
- Be prepared to be directed to anchorage either to a general or specific location. Safe anchorages are typically marked on the appropriate chart.
- However, consult sailing directions and Notices to Mariners or similar publications to determine any hazards.
- Use the radar and/ or AIS system to calculate safe distances from other vessels using the anchorages.

- Keep in mind any potential wind and current changes.
- Post security watches while in port.
- Brief personnel on what to watch for and who to notify in the event of any suspicious looking activity.
- Personnel stationed on deck should always be attired in proper PPE.
- A proper radio watch must also be maintained on all port/ safety frequencies.
- The port or Captain may require a pilot.
- Monitor frequencies as instructed to make contact with approaching pilot and negotiate boarding procedures.
- Make the necessary personnel available for a safe boarding.
- Have someone escort the pilot to the bridge.
- Ask the pilot about any precautions taken ashore, security threats around the quay, traffic problems and procedures, local ordinances or curfews.
- Have a crewmember escort the pilot off the bridge when he is ready to disembark.

During docking operations, all personnel must wear appropriate PPE and be vigilant for people attempting to slip onto the vessel.

8.10 Secured Along Side

- Secure bow thruster and steering.
- Notify engineering that the engines are ready to be secured.
- Switch radar to stand by.
- Secure running lights.
- Check that radios are tuned to the proper channel to monitor communications from the port authorities.
- Deploy the gangplank and ensure that it is safe and secure with safety net in place.
- Post security watch at gangplank with sign in log.
- Post additional security watches as needed.
- Have paper work and ships documents ready for agent, customs, immigration, port authorities and others as needed.

9.0 Adverse Weather Plan

This vessel should be prepared for adverse weather conditions that could arise at any time. Consequently the Captain needs to monitor weather continuously and be prepared to either ride out adverse weather or head for shelter, depending upon the severity of conditions. The various options for adverse weather are discussed.

9.1 Work Stoppage

Should the vessel encounter bad weather, the following is a guideline:

- Secure all items (core heads, core pipe, etc.) to the deck to prevent gear from rolling or going overboard.
- Secure engine room hatch on back deck to prevent water from entering engine room.
- Restrict personnel access on back deck during rough/ inclement weather.
- If it is necessary for personnel to be on the back deck, the bridge must be alerted that they are going to the back deck. At least two people should be present (personnel doing the work on deck, and an observer with a radio watching over them and in communication with the bridge) Proper PPE (full life vest with signal light and whistle, hard hat, steel footwear, and if necessary, a harness) shall be worn by personnel on the back deck.
- Should the vessel elect to remain on the work site, the bridge will run weather patterns to provide the best ride until rough weather abates or the decision is made to seek shelter in port. Weather patterns consist of running up seas and down seas, but avoiding side seas, to minimize the roll of the vessel.
- All vessel and personnel related safety questions should be referred to the vessel Captain. The Party Chief may determine if it is unsafe to continue science operations. However, the vessel Captain alone has the final authority to determine if the vessel should shut down operations and run weather patterns or seek shelter.
- Should weather and sea conditions become too uncomfortable or dangerous; the vessel will seek the nearest port.

Weather decisions will be discussed with the Captain, vessel crew, science party, and client representative. However, on all TDI-Brooks vessels, the ship's Captain is in command with **absolute authority**, and as such, is responsible for making decisions for the safe operation of the vessel and the safety of all personnel on board, including the scientific party. The Captain is also responsible for operating the vessel in an environmentally sound manner that prevents pollution. **The Captain will not be constrained by the Company, ship owner, or charterer from making decisions that are in his professional judgment necessary for the safe operation of the vessel with minimal environmental impact**.

The Captain has the authority to request assistance from TDI-Brooks Management or any other appropriate source to meet his obligations. **It is imperative that a job is stopped if it is deemed to be unsafe for the given conditions**. It is TDI-Brooks' policy that any member of the crew has the right to "Stop the Job" if they feel conditions are unsafe. **Note: all deck work is stopped in the event of lightning. All personnel should seek shelter inside the vessel until lightening is no longer a threat.**

During the period of adverse weather/ sea conditions the Captain needs to monitor the weather more frequently and notify the company with a status of condition and projected plans.

- Should the weather/ sea conditions continue to deteriorate and all work is stopped, the Captain must decide if the vessel will ride out the adverse weather conditions or head for shore.

9.2 Vessel Operations Stoppage

Should the Captain decide that weather conditions necessitate a work stoppage, the crew of the vessel needs to secure all equipment and close all hatches, watertight doors and vents. The vessel needs to contact the Company and inform them of their status. The vessel crew needs to verify the workings of all emergency equipment (i.e., generators, life rafts, navigation and communication equipment). The Captain needs to also evaluate an evacuation plan to shore. The Captain must monitor weather/ sea conditions continuously and maintain contact with the home office.

9.3 Site Abandonment

Should the Captain decide to leave the site and head for shelter, he needs to inform the crew and the company of his decision. The Captain needs to inform shore-based facilities that he is coming in with an ETA. A final inspection needs to be made of the vessel that all equipment is secured and emergency equipment ready.

10.0 Weather/ Cyclones

No one should be out on unprotected areas of the deck of the vessel during severe weather, including lightning unless there is an emergency. All normal work activities should be suspended if lightning is nearby.

Should the vessel work in a region prone to cyclones the following plan describes actions to be implemented during cyclone season. TDI-Brooks maintains a customized active weather monitoring system, TDI Sea State, for the sites of its vessel activity using data from the most accurate and reliable sources.

10.1 Cyclone/ Hurricane Procedures

In the event of a predicted cyclone, the following procedures are to be followed. Cyclone warning and/ or watches will be color-coded, depending upon proximity, strength and potential for damage.

Color	Potential Consequence
Code Blue Watch	Generally considered safe, a cyclone has formed and may affect the area within 48 hours or the storm is more than 600 nm away.
Code Yellow Warning	Prepare vessel, the cyclone in approaching area and appears inevitable within 24 hours or is between 350 to 600 nm away.
Code Red Updated Warning	Extreme danger, the cyclone is imminent or within 350 nm.

In condition of **Code Blue**, the vessel will take the following actions:

- The Captain plots and monitors the critical path of the cyclone.
- The Captain may issue a cyclone alert for the vessel.
- The Party Chief will notify TDI-Brooks management of cyclone watch.
- The on-site client representative will notify the client of cyclone watch.

In condition of **Code Yellow**, the vessel will take the following actions:

- The Captain will continue to plot and monitor the critical path of the cyclone.
- The Captain will monitor and obtain weather reports at 4-hour intervals or less.
- The Captain will issue a cyclone warning and brief the crew of the storm's position and the ship's and crew's role in vessel preparation.
- The Party Chief will notify TDI-Brooks management of cyclone warning.
- The on-site client representative will notify the client of cyclone warning.
- Prepare vessel for heavy weather or run into port.
- Secure all equipment and cargo on vessel.

In condition of **Code Red** or Red Alert and the vessel remains at sea, the vessel will take the following actions:

- The Captain will continue to plot and monitor the critical path of the cyclone.
- The Captain will monitor and obtain weather reports at 2-hour intervals or less.
    - The Captain will issue a cyclone warning and brief the crew of the storm's position and the ship's and crew's role in vessel preparation.
    - The ship will be secured, all watertight vents, doors, hatches and etc. will be closed.
- The Party Chief will notify TDI-Brooks management of cyclone warning.
- The on-site client representative will notify client of cyclone warning.

11.0 Piracy / Security Breach

Pirate attacks are on the rise worldwide. The following describes TDI-Brooks' Piracy Plan. Security threats are addressed in the TDI-Brooks Security Plan for each vessel. Pirate attacks come in many forms, but some generalizations can be made concerning an attack at sea. The bridge and appointed lookouts will watch for any vessel that appears to be on an *intercept course* or *shadowing* the vessel. Lookouts will be briefed that these types of vessels are of particular concern.

- Lookouts/ bridge crew should be suspicious of any craft that appears to be closing with the vessel's position and has not made its intentions clear – or appears out of the ordinary in any way. Check the Automatic Identification System (AIS) to see if the vessel is identifying itself.

- If working in a field that has either a manned platform/ rig or a nearby vessel, immediately advise them of any vessel that raises concern.

- At any hint of a suspicious vessel, the lookouts should begin considering possible actions to take should concerns escalate. The crew should be alerted to stand-by status for anti-piracy measures.

- Evasive maneuvers should be implemented at the first sign of what might become a threat. Evasive maneuvers will also help to ascertain that the oncoming craft actually is a threat when the suspicious vessel responds to your maneuvers by adjusting its own intercept course. Broadcast information concerning possible pirate attack on the radio and request assistance.

- Evasive maneuvers include the following. One likely scenario is that the vessel in question is faster but may be smaller. If possible, use the size and seaworthiness of this vessel to its advantage. While the sea state may not pose a problem for our vessel, even a short chop may be a problem for the approaching craft; especially if it can be forced to ride the sea at a dangerous angle of attack. Consider turning the vessel down the trough of the sea or putting the sea slightly abaft your beam. This may cause the seas to break over their shallow transom or rear quarter. It may also cause steering problems.

- If there are other vessels or manned platforms/ rigs in the area, steam towards them. There may be safety in numbers.

- If the threat escalates, for instance the craft appears to have continued the pursuit and has not given satisfactory (or believable) responses as to what their intentions are, and it is now time for stronger action. Sound the general alarm, move everyone inside and lock all hatches and entrances from the inside **(details provided in Security Plan**). If it is safe to do so begin firing distress flares from a position on the

opposite side of your vessel from the approaching craft. Avoid presenting yourself as a target in the pilothouse windows. Make distress calls on the appropriate frequencies. Be sure to utilize the short range [Marine VHF] radios as well as GMDSS, or other automated [long range] distress radios/ devices. As time allows make your distress calls on known working frequencies for your area. Include your position, course, speed, nature of distress, and the number of people on board your vessel. Use all means of communication to notify both our office as well as the client's office of the situation. Get the word out!

- Should the threat escalate, begin thinking in terms of delaying an actual boarding. These types of delaying actions will greatly depend on the circumstances, but you may try swinging your course to make boarding your vessel difficult as they try to come alongside. Locking the hatches and entranceways is an effective delaying tactic. Persistent attackers will find a way in through the pilothouse windows if necessary, but any delay creates time for help to arrive.

- If confronted by attackers try to avoid confrontational behavior. You may try negotiation offering provisions, and/ or money if they will depart. Keep the situation as calm as possible. Remember that nothing you have on board is more precious than the lives you are trying to protect.

- The goal is to get everyone to safety as quickly as possible. In the aftermath of an attack, treat injuries, seek medical assistance and verify the condition of your vessel.

- Maintain contact with our offices as well as the client's offices with regular updates on your position, condition of the people on board, condition of the vessel, and procedures being followed.

As soon as is practicable begin the documentation process. Make notes while interviewing your officers, crew and others. Collect details and take photos. Write down from your own perspective the entire chain of events

12.0 AIS Procedure

Requirements:
Vessels equipped with AIS (either by mandatory carriage or voluntarily) must abide by the requirements set forth in **33 CFR 164.46(d)** and **SOLAS Chapter 5 Regulation 19, Section 2.4** should especially ensure:

- their AIS is in properly installed,
- using an assigned MMSI, and,
- that its data is accessible from the primary conning position of the vessel.
- Also, that it be in 'effective operating condition',
    - which entails the continuous operation of AIS and

- the accurate input and upkeep of AIS data fields (GPS, gyro, converters)

When must AIS be in operation?
AIS must be on during all times that the vessel is navigating (underway, at anchor or moored in or near a commercial channel or shipping fairway in operations likely to restrict or affect navigation or other vessels), and at least 15 minutes prior to unmooring.

Turning it Off?
Yes, it can be turned off when you are moored at the dock (except as noted above, and the 15 minute “warm up”).

Should continual operation of AIS compromise the safety or security of the vessel or where a security incident is imminent, **the AIS may be switched off**.

This action and the reason for taking it must be

- reported to the nearest U.S. Captain of the Port or Vessel Traffic Center and
- recorded in the ship's logbook.
- The AIS should return to continuous operation as soon as the source of danger has been mitigated.

The Pilot Plug (Port)

The AIS Pilot Port, on any vessel subject to pilotage, must be readily available and easily accessible from the primary conning position of the vessel and within at least 3 feet of a 120-volt 50/60 Hz AC power receptacle.