



Refer to: General Navigation Policy (PL0018)

Purpose

To guide the Master and bridge watchkeeping officers in the management of the bridge team.

Scope

This applies to all vessels that are certified under Teekay Shipping Limited's Document of Compliance.

Background

Bridge Resource Management (BRM) is the utilisation of techniques designed to effectively use personnel and equipment during navigation of a vessel to help reduce errors and omissions in bridge operations.

Refer to: Familiarization with Bridge Equipment (FM0021).

BRM results in a bridge team that, amongst other things,

- Has good situational awareness,
- Anticipates danger in an evolving situation,
- Obtains relevant information early,
- Avoids ambiguity,
- Delegates tasks and responsibilities,
- Sets priorities and has contingency plans,
- Uses all data available with appropriate screening,
- Is not preoccupied with minor technical problems,
- Monitors progress, and
- Encourages the bridge team to recognise the development of an error chain and to take action, well in time, to effectively break the sequence.

Definitions

Bridge Team

- Consists of all crew members responsible for safe navigation of the ship including certificated and non-certificated personnel. Any pilot on board shall be integrated into the bridge team.

Watch condition

- A watch condition structures the bridge team based on the environment in which the vessel is operating – both internal and external. See Teekay Watch Conditions (PT0071)

Situational Awareness

- The continuous gathering and accurate interpretation of all information coupled with the projection of their status in the near future, all based on the mariner's skills and training, that allows reaction in a timely manner to the situation that can be expected.

Voyage and Passage Plan includes:

- Appraisal, i.e. gathering all information relevant to the contemplated voyage or passage;
- Detailed planning of the whole voyage or passage from berth to berth, including those areas necessitating the presence of a pilot,
- Execution of the plan; and
- Monitoring of the progress of the vessel in the implementation of the plan.
- Refer to: Passage Planning Procedure (SP0237)

Responsibilities

Bridge Team

- Safe Navigation including passage monitoring to ensure she remains close to her intended track, in safe depths, and on schedule.
- Collision avoidance including detecting and avoiding other vessels, crafts and objects.
- GMDSS watchkeeping duties.
- Administration and other routine duties such as communications, log keeping, supervising watch personnel, and remaining aware of other shipboard activities and personnel.

The Master and the bridge team are always responsible for and in charge of the safe navigation of the ship, *even when navigating with a pilot.*

Note:

The Bridge Team shall not allow any team member to be distracted by other extraneous items including but not limited to the use of mobile phones (either for verbal or text communication), music or audio files, paperwork and chart corrections.

The Bridge Team shall be appropriately strengthened when individuals or organization having business on board require immediate responses over the phone from the bridge.

Effective Bridge Resource Management – salient features:

- Sound nautical processes including adherence to all rules and regulations.

- Good navigational and watchkeeping practices, which include setting the strength of the bridge team commensurate to existing conditions.
- "Berth to Berth" Voyage and passage plan i.e. includes the entire period from departure berth at a port, till arrival at the berth of a subsequent port, including any pilotage phase. Dangers likely to be met, including any adverse weather conditions are identified, and the necessary precautions and contingency arrangements put in place.
- Adequate briefing and guidance of the bridge team prior undertaking the voyage and/or significant portions of a passage
- Clear delegation and assignment of tasks and responsibilities, including clarity on who has control over the direction and speed of the vessel.
- Setting of priorities and avoidance of ambiguities. The bridge team must remain alert and capable of challenging or responding to decisions and instructions.
- Adequate and effective monitoring using all means available to fix the ship's position.
- Effective use of electronic navigation aids. Notwithstanding the accuracy and reliability of modern systems, it is poor practice to rely solely on one aid such as radar or GPS. This is especially relevant when passing through confined waters, regions of dense traffic, poor visibility or areas subject to strong winds and tides.
- Remaining "Situationally Aware" at all times and providing sufficient support to the Master and/or pilot. This will require a high level of alertness and gathering of all relevant information. For this purpose the Bridge Team will not be distracted by extraneous items.
- When a pilot is on board, good Master and pilot relationship must be maintained. It is recommended that the bridge team conduct a pre-passage briefing together with the pilot to ensure a shared view of the intended passage. During the pilotage the Master and the deck officers must continue to monitor the safe passage of the ship, appraise the pilot's advice and critique as necessary.
- Ability to detect and/or challenge deviation from the passage plan and standard operating procedures.
- Constant review and revision of passage plans where needed.
- Not ignoring (through familiarity) the need to constantly follow all of the above.
- Whenever possible, holding a debriefing shortly after a passage to analyse events and identify improvements that can be made for subsequent passages.



- This form is to be completed by newly joined Officers and Ratings.
- Report any malfunctioning equipment or deficiencies to the Master immediately.

Refer to GMDSS Onboard Training & Familiarization Guideline – (SP0883)

Watchkeeping Officers Only: (Complete at the beginning of the first watch kept)		
No.	Equipment	Tick (✓)
1.	Compasses	
	Main gyro compass	
	Auxiliary gyro compass	
	Latitude and speed correction input	
	Gyro repeaters: (Bearing repeaters, radar, auto pilot, course recorder)	
	Magnetic compass	
	Course recorder and spare paper rolls	
	Off course alarm	
	Spare bulbs	
2.	Steering Gear	
	Auto pilot systems	
	Changeover from auto to hand steering mode	
	Testing arrangements	
	Alarm setting	
	Emergency Steering Arrangements, and Non-Follow Up.	
3.	Engine / Thruster Controls	
	Telegraph	
	Critical RPM	
	Engine, movement data logger and spare paper rolls	
	RPM Indicator, engine air pressure indicator (where applicable)	
	Control testing procedure	

	All Alarms, switches and controls including deadman alarm	
4.	Radar	
	Radar 1: 3 cm	
	Radar 2: 10 cm	
	Radar 3:	
	ARPA	
5.	External Communication System	
	AIS	
	GMDSS equipment: overview of safety communication with knowledge of sending Distress and urgency messages using: <ul style="list-style-type: none"> • Satellite communication equipment • MF/HF • VHF sets 	
	<u>GMDSS operators</u> to complete vessel specific equipment familiarization with emphasis of dealing with safety communication and record keeping including: <ul style="list-style-type: none"> • Satellite communication equipment • MF/HF • VHF sets • NAVTEX receiver (check spare paper rolls) • Weather facsimile (check spare paper rolls) 	
	Sending of distress messages on above equipment including distress messages	
	Emergency battery room and battery maintenance log	
	Ship Security Alarm	
6.	Navigational Charts and Publications	
	BA chart folios (check and note chart corrected up to NM)	
	US chart folios (check and note chart corrected up to NM)	
	ECIDIS and electronic charts, if fitted	
	Admiralty Notices to Mariners (Latest NM received)	
	HO Notices to Mariners	
	Chart catalogue BA and US	

	Almanacs	
	List of publications (check and verify)	
	Deck Log, GMDSS Log, other logs maintained on Bridge.	
7.	Electronic Navigational Position Fixing Systems	
	GPS	
	DGPS	
	LORAN	
8.	Integrated Bridge System Functions if Fitted	
	Automatic track keeping system, if fitted	
	Chronometer	
	Echo sounder and echo sounder spare paper rolls (number and location)	
	Log/speed recorder	
	Bridge computer and accessing server data base	
	Voyage Data Recorder (VDR)	
9.	IAS and CCTV (if applicable)	
	Cargo & Ballast monitoring system	
	Close Circuit Television monitoring system	
10.	Ancillary Bridge Equipment	
	Barometer	
	Barograph	
	Hygrometer	
	Binoculars	
	Hand Lead Line	
	Manual Fog signaling equipment	
11.	Shuttle Tanker Specific	
	DP Equipment	
	DP Reference System	
	Bow Loading System	
12.	Posters	

	Manoeuvring characteristics	
	Ship particulars	
	Ship's aerial arrangement	
	Bow visibility distance tables	
	<u>Teekay Watch Conditions (PT0071)</u>	
	<u>Anchoring-Operational Precautions and Procedures (PT0072)</u>	
	<u>GMDSS Operating Guidance for Masters of Ships in Distress Situation (PT0050)</u>	
	<u>First Alert Notification for Personnel/Ship/Environment (PT0054)</u>	
	Master's Standing Orders	
Watchkeeping Officers and Ratings: (Complete at the beginning of the first watch kept)		
No.	Equipment	Tick (✓)
1.	Lights, Dimmers and Switches (Spare bulbs for all of below)	
	Bridge and deck lighting	
	Navigation lights and signal lights	
	Navigation consol lighting and dimmers	
	Searchlights, Morse light, daylight signal lamp (Aldis)	
	Emergency lighting in case of main power failure	
2.	Safety Equipment	
	EPIRB / SART	
	Bridge pyrotechnics and line throwing apparatus	
	Bridge fire detection system	
	General alarm, fire alarm and gas alarm (if fitted)	
	Emergency ventilation shut down button	
	Emergency fire pump and general service pump starter buttons (any water deluge/curtain system)	
	Bridge life jackets	
	Water Spray System activation button	
	Fixed Gas Detection System	
	Whistles fore and aft (including auto fog signal unit operation)	

	Fog bell and gong system	
3.	Internal Communication System	
	UHF sets (walkie-talkies), chargers, and spare batteries	
	Public Address system / talk back system	
	Emergency phone system	
	Loudhailer	
	Audible Alarms (eg IGS, IAS, Gas, Halon/Foam/CO ² , E/R, Bilge, Refer space, etc)	
4.	Daylight Signals	
	Flags	
	Shapes	
	Spares and repair kits	
5.	Job Description / Duty plan read and understood	
	Watch Handover Procedure	
6.	Posters	
	Pilot Ladder and Pilot Boarding Arrangements	
	<u>Muster List (PT0020)</u>	
	<u>Muster List (Australian Manned Vessels) - 2 Lifeboats (PT0021)</u>	
	<u>Muster List (Australian Manned Vessels) - 1 Lifeboat (PT0022)</u>	
	<u>Muster List - FSO Team Australis (PT0024)</u>	
	<u>Muster List - LNG (PT0005)</u>	
	<u>Designated Persons Ashore (DPA) (PT0051)</u>	
	<u>Regional Designated Person Ashore (DPA) for Teekay Marine Services GmbH (PT0074)</u>	
	<u>Regional Designated Persons Ashore (DPA) for Australian Teams (PT0075)</u>	
	<u>Drug and Alcohol Policy (PT0065)</u>	
	<u>Drug and Alcohol – Australian Teams (PT0073)</u>	
	<u>Health, Safety, Environment & Quality (HSEQ) Policy (PL0015)</u>	
	<u>Job Hazard Analysis (PT0052)</u>	
	<u>No Smoking in Alleyways or on Exposed Decks (PT0059)</u>	
	MSDS Information	

Familiarization with Bridge and GMDSS Equipment

Doc No: FM0021
Version: 6

	Location of Drill guidelines	
	Location of other documents (Tests, Handovers, etc...)	

This is to confirm that I have familiarized myself with the location and use/operation of the above equipment.					
Officer/Crew	Signature:		Master	Signature:	
	Name:			Name:	
Port:			Date:		
Voyage No.					

Safety and Environmental Orientation Procedure (SP0315)

File in binder Master #19



Teekay Watch Conditions

Refer to **Bridge Resource Management (BRM) Procedure (SP0412)**

Watch Condition (WC)	Ships External Environment		
	Visibility	Location	Traffic
1	unrestricted / clear	offshore	light
2	clear to restricted	offshore or coastal	light to moderate
3	restricted	offshore or coastal	moderate to heavy
4	restricted	coastal and restricted	heavy
P	pilotage waters		

The strength and responsibilities of the Bridge Team shall be guided by these tables.

At the discretion of the Master, the watch may be adjusted based on operational condition, weather, traffic density, sea conditions and location/proximity from the coast and dangers.

Watch condition to be determined by the most severe category of visibility, location or traffic pertaining to the ship's external environment.

Definitions

Bridge Team

A Bridge Team consists of all crewmembers responsible for safe navigation of the ship including certificated and non-certificated personnel. Any Pilot onboard shall be integrated into the Bridge Team.

Watch Condition (WC)

A watch condition structures the bridge team based on the environment in which the vessel is operating—both internal and external.

P = Pilotage
L = Lead

**The pilot is there only to advise. Full responsibility of ship safety and passage through pilotage waters remains with the master and the officer of the watch.*

WC 1	Con	Collision Avoidance	Navigation	Communication	GMDSS	Helm	Lookout	
	OOW						AB/R or OS/R	
	Master is available if required							

WC 2	Con	Collision Avoidance	Navigation	Communication	GMDSS	Helm	Lookout	
	OOW						AB/R	Extra AB/R or OS/R if required
	Master is available if required							

WC 3	Con	Collision Avoidance	Navigation	Communication	GMDSS	Helm	Lookout
	Master or OOW	OOW				AB/R	Extra AB/R or OS/R if required
	Master is available on the bridge						

WC 4	Con	Collision Avoidance	Navigation	Communication	GMDSS	Helm	Lookout	
	Master	Master (L)			AB/R			Extra AB/R or OS/R if required
	Extra Watch Officer		OOW					

P	Con	Collision Avoidance	Navigation	Communication	GMDSS	Helm	Lookout
	Pilot	Master (L)				AB/R	OS/R
	OOW		Extra Watch Officer if required				