

ONBOARD TRAINING GUIDANCE (OTG) FOR BSMarE STUDENTS

Name of Student	Name of MHEI	
Name of Vessel	Vessel 1	Vessel 3
Type of Vessel		
Shipping Company		
Flag Nationality		

Instructions:

- Upon joining the ship, familiarization of duties and all ship arrangements, installation, equipment, procedures, and ship characteristics that are relevant to the routine or emergency duties are required to be undertaken by the student based on the SMS of the ship and recorded in TRB.
- In the preparation of this Onboard Training Guidance (OTG) for each student, the Onboard Training Supervisor shall coordinate with the shipping/manning company where the student will be deployed to gather information such as: the particular type of vessel and the available machineries, equipment, and instruments onboard. The corresponding Objective Evidence (column 2) shall also be identified. The Task Schedules (from Month 1 to Month 12) shall be accomplished during monitoring activity of the OTS at the specific month when the student actually carried out the duties/tasks onboard.
- The indicated objective evidence in column 2 are **sample only**. The OTS must be able to identify the actual objective evidence/s that can be practically produced onboard in consideration of the type of vessel and the available machineries, equipment, and instrument onboard.
- The duties and tasks listed below are based from the approved TRB and are classified into:
 - Sea projects** – are duties/tasks (shaded in yellow) that can be performed by the cadets on their own time without interfering with ship's operations. The sea projects are required to be 100% completed during the onboard training.
 - Operational tasks** – are duties/tasks (shaded in blue) wherein performance is dependent on actual ship operation or in accordance with ship's Planned Maintenance System. During onboard training, at least 70% of the operational tasks are expected to have been completed.
- Project Works** are assignments to ensure gaining progressively knowledge of the ships and equipment and life-saving appliance carried onboard that is required to be accomplished aside from sea projects and operational tasks. Project Works are required to be completed at least 70% during the student's onboard training.
- The report on sea projects and operational tasks on various shipboard operations undertaken during onboard training shall be prepared by the students for the final evaluation of the assigned Shipboard Training Officer onboard. This shall contain any of the following: (a) detailed information; (b) drawings; (c) photos; and (d) description of activities in narrative form.
- For the Task Schedule (months 1 to 12) the students are expected to distribute the tasks over a period of 12 months. Accomplishment of these tasks shall be reported to the Shipboard Training Supervisor during their monthly monitoring together with entries in the TRB and corresponding objective evidence/s.
- This OTG shall be used in monitoring the progress of students' onboard training by the Onboard Training Supervisor, Monitoring Team of the Commission and the Maritime Administration, and the Shipboard Training Supervisor.

Approved by:

Name and Signature of Onboard Training Supervisor/Date



Ref. No.	Duty/Task	Objective Evidence/s (Pictures, Videos, Documents, Drawings, Calculations and etc. as per specific task/Duty as stated with the attestation, actual date and signature of the OOW)	TASK SCHEDULE											
			Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
1.2	Conduct the watch	Picture or photocopy of Chief Engineer's Order Book signed by OOW												
	Assist with the duties of an engineer officer on: Seagoing watches	Picture or photocopy of Engine Room Log book entries showing the activity transpired during the watch signed by OOW												
.2	Port watches	Picture or photocopy of Engine Room Log book entries showing the activity transpired during the watch signed by OOW												
.3	Anchor watches	Picture or photocopy of Engine Room Log book entries showing the activity transpired during the watch signed by OOW.												
.4	Under supervision, carry out routine watchkeeping duties, checking the correct functioning of all automatic control and monitoring systems	Video clip/picture carrying out routine watchkeeping duties, checking the correct functioning of all automatic control and monitoring systems												
.5	Make adjustments as found necessary													
.6	Perform routine checks in machinery space for correct water levels	Video clip/picture performing routine checks in machinery space for correct water levels												

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.7	Blow down main engine scavenge drains	Video clip/picture blowing down main engine scavenge drains												
.8	Ensure that compressed air automatic drains are functioning correctly	Video clip/picture checking the automatic drain traps												
.9	Check sheathing on high-pressure fuel pipes	Video clip/picture checking sheathing on high-pressure fuel pipes												
.10	Clean air side of the turbo charger	Video clip/picture cleaning air side of the turbo charger												
.11	Carry out boiler water test and corrective treatment	Video clip/picture carrying out boiler water test and corrective treatment												
.12	Check returns from heating coils and other possible sources of contaminated feedwater	Video clip/picture checking returns from heating coils and other possible sources of contaminated feedwater												
.13	Check the correct operation of the boiler including water level burner	Video clip/picture checking the correct operation of the boiler including water level burner												
.14	Carry out a soot-blowing procedure	Video clip/picture carrying out a soot-blowing procedure												
.15	Check all air receiver drains	Video clip/picture checking all air receiver drains												
.16	Assist on the bridge during manoeuvring operations: Entering ports	Photocopy of pre-arrival checklist one (1) hour prior arrival												

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.17	Leaving ports	Photocopy of pre-departure checklist one (1) hour prior departure												
.18	Understand that effective watchkeeping involves managing watch, including supervision, as well as maintaining the safe operation of propulsion plant and other machinery	Reflection paper on the watchkeeping involving managing watch, maintaining safe operation of propulsion plant and other machinery												
1.3	Response to blackout and emergency situations													
.1	Take corrective action during emergency drills: Fire drill	Video clip/pictures assisting fire drill signed by OOW Write-up on the corrective actions undertaken during fire drill												
.2	Abandon ship drill	Video clip/pictures assisting abandon ship drill signed by OOW Write-up on the corrective actions undertaken during abandon ship drill												
.3	Black out drill	Video clip/pictures assisting black out drill signed by OOW												

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.7	Demonstrate knowledge of emergency steering gear operation	Video clip/pictures of emergency steering gear operation Write up on the emergency steering gear operation												
.8	Demonstrate a knowledge of how to reset machinery following failure and how to restart plant	Video clip/pictures of how to reset machinery following failure and how to restart plant Write up on how to reset machinery following failure and how to restart plant												
.9	State the priorities for restoring services	Write up on the priorities for restoring services												
.10	Demonstrate knowledge of first start arrangements	Video clip/pictures first start arrangements Write up on first start arrangements												
1.4	Change-over of remote-automatic and local control systems													
.1	Change over to the stand by systems for: Main engine	Video clip/pictures in changing over from engine control room to engine side control												
.2	Generators	Video clip on changing over from local control to												

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	by telephone or hand held transceiver (portable radios)													
4.	Competence: Operate main and auxiliary machinery and associated control													
4.1	Prepare machinery for departure from port													
.1	Draw a schematic arrangement of the main engine system, using blocks to indicate the main components													
.2	Prepare and test the steering gear and telegraphs													
.3	Confirm bridge and ER communications													
.4	Check starting air compressor and prepare starting air systems													
.5	Prepare main and auxiliary machinery for departure													
.6	Prepare main and auxiliary machinery for the sea passage													
.7	Demonstrate a knowledge of the use of high level and low sea suctions													
4.2	Operate main and auxiliary machinery													
.1	Sketch, in diagrammatic form, the main systems as appropriate for the ship: Auxiliary engine													
.2	Boiler system													
.3	Start main engine from local and remote control positions													
.4	Carry out post start-up checks of main engine and shafting													

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.5	Manually operate main compressor and change over to normal automatic running mode													
.6	Record pressure and temperatures for normal running and note system valve settings and positions in normal running mode													
.7	Respond to instructions from the bridge and operate the main engine controls during periods of manoeuvring													
.8	Water wash exhaust side main engine turbocharger													
.9	Change local/manual control of machinery and systems to remote/automatic control as appropriate													
.10	Adjust main engine and auxiliary machinery for continuous running													
.11	Report abnormal conditions, making a record of same and note corrective actions required													
.12	Prepare for running and operate an evaporator/fresh water generator													
.13	Apply test and conditioning for purity and potability of fresh water													
.14	Check crankcase oil mist detector and demonstrate action to be taken in case of an alarm													
.15	Check governors													
.16	Take power diagram or readings and calculate mean effective pressure and indicated power													

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6.	Competence: Operate electrical, electronic and control system													
6.1	Basic configuration and operating principles of electrical equipment: Locate and use relevant manual, drawings, diagrams and instructions for electrical equipment and distribution systems													
.1	Explain the difference between a system diagram, a circuit diagram and wiring diagram													
.2	Demonstrate an ability to use ship's diagrams to identify: Main circuit breakers Emergency switchboard connections Trips (over current, reverse power, low frequency) Transformers Fuses Supply voltages Shore connections Loads to each piece of equipment The types of motors and motor starters													
.3	Demonstrate a knowledge of symbols commonly used on circuit diagrams													
.4	Demonstrate a knowledge of which electrical loads are classed as essential or non-essential, and how essential services are supplied													
.5														

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Note: Fonts in **blue** are covered by the courses Electro 1 & 2.

[illegible]

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.1	List shipboard equipment for which relevant manuals/ diagrams used:									
	1.	_____								
	2.	_____								
	3.	_____								
	4.	_____								
	5.	_____								
7.2	Knowledge of construction and operation of electrical testing and measuring equipment									
	Item Worked on	Measuring Instruments and Test Equipment used								
.1										
.2										
.3										
.4										
.5										
7.3	Ensure safety of all personnel working on electrical systems, including the safe isolation of electrical equipment, required before personnel are permitted to work on such equipment									
.1	Isolate and lock out electrical equipment, applying safety measure									

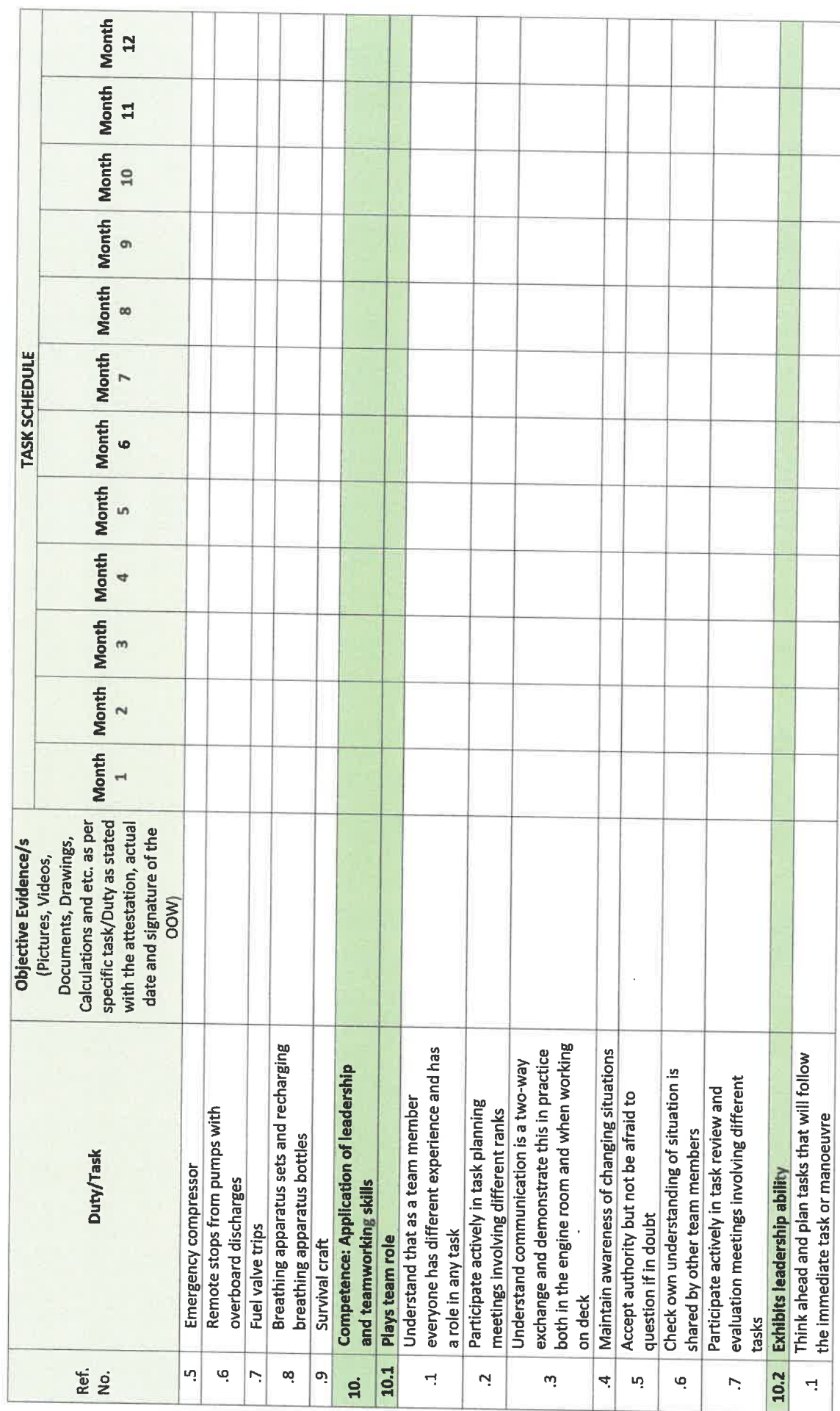
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8.8	Use of special tools for fabrication and repair work on board													
	Item Fabricated or Repaired	Special Tools Used												
.1														
.2														
.3														
.4														
.5														
.6														
.7														
.8														
.9														
.10														
8.9	Use of machine tools and welding equipment for fabrication and repairs													
	Item Fabricated or Repaired	Machine Tools or Equipment Used												
.1														
.2														
.3														
.4														
.5														
.6														
.7														
.8														
.9														
.10														

Note: Fonts in red are covered by the courses Mach 1, 2 & 3.

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9.	Competence: Maintenance and repair of shipboard machinery equipment													
9.1	Locate and use relevant data sources, manuals and drawings Before starting any maintenance or repair work ensure that you have completed the tasks concerned with safety at work. In addition, ensure that you have familiar with the procedures for safe of electrical equipment for your present ship, and that you are in possession of an appropriate permit to work													
.1	Demonstrate a knowledge of the ship's Planned Maintenance System													
.2	Demonstrate an understanding of manufacturers' instructions and drawings for use in maintenance tasks													
.3	State what is required in a Planned Maintenance System													
.4	Assist with input to the ship's Planned Maintenance Systems													
.5	Retrieve reports from a computer-based maintenance system													
.6	Participate in a survey of running machinery using condition monitoring equipment, if applicable													
.7	Assist in interpretation of results of such survey													
.8	Describe how items of spare gear are stored and maintained in good condition													

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.7	Fuel pumps													
.8	Cam shafts													
.9	Crosshead bearings													
.10	Fuel oil filters													
.11	Lube oil filters													
.12	Air filters													
.13	Use turning gear, under supervision, taking all safety precautions													
.14	Change and/or overhaul the following main engine components, checking clearance, where appropriate: Piston Cylinder heads Turbochargers Top end bearings Bottom end bearings Indicator cocks Main bearings													
.15	Piston													
.16	Cylinder heads													
.17	Turbochargers													
.18	Top end bearings													
.19	Bottom end bearings													
.20	Indicator cocks													
.21	Main bearings													
.22	Piston-rod scraper box, stuffing box													
.23	Crosshead guides													
.24	Tie bolts													
.25	Holding-down bolts and chocks													
.26	Inspect scavenge trunk and exhaust spaces and report on:													
.27	Cleanliness/deposits													
.28	Scavenge drains													
.29	Scavenge valves													
.30	Carry out a crankcase inspection													
9.4	Undertake maintenance and repairs to the auxiliary engine													



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.1	Participate in an emergency response exercise for controlling spillage of oil or other noxious or toxic substances on board													
.2	Be aware of the importance of immediately reporting and investigating potential pollution incidents													
11.4	Stop or prevent leakages and spills of harmful liquids and solid substances													
.1	Demonstrate use of Material Safety Data Sheets and the IMDG Code to obtain information on cargo hazards and handling instructions													
.2	Participate in drill for clean-up of hazardous spillage													
11.5	Sound all tanks and compartments if any damage is suspected													
.1	Participate in an emergency response exercise for stranding													
.2	Perform sounding of bilges, peak tanks, double bottom and other tanks and record information if any hull damage is suspected													
11.6	Carry out bilge, ballast and bunkering operations													
.1	Locate the ship's ballast water management plan and demonstrate an understanding of its content													
.2	Understudy the engineer officer conducting a ballasting operation													
.3	Have knowledge of requirements of MARPOL and Annexes													

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.12	Apply protective coats to appropriate surfaces													
12.2	Ensure that all loose objects are securely fastened to avoid damage													
.1	Ensure that all gear, tools; spared etc are properly stowed and secured													
12.3	Arrange for regular control measures to ensure watertight integrity													
.1	Take and record the daily soundings of engine room tanks bilges and other spaces: By manual means													
.2	By use of gauges													
13.	Competence: Prevent, control and fight fires on board													
13.1	Operate fire and smoke detecting equipment													
.1	Understand use and assist in the maintenance of:													
.2	Portable foam extinguisher													
.3	Portable CO ₂ extinguisher													
.4	Portable dry powder extinguisher													
.5	Portable water extinguisher													
	Maintain hoses, nozzles and couplings													
13.2	Ensure that all persons on watch are able to detect and correct hazardous situations and actions and keep the ship clean and tidy													
.1	Perform fire patrol duties													
.2	Re-stow gear and secure after maintenance work													

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13.3	Instruct the watch in loading fire-fighting appliances and emergency escapes routes and sound alarm													
.1	Carry out a full inspection of fire-fighting equipment and report to the chief engineer													
.2	Participate in an emergency response exercise for fire at sea and in port													
13.4	Locate fire stations and demonstrate proper use of fixed installations and other fire-fighting appliances and agents													
.1	Assist with the testing of the following systems, where fitted: Fire detection and alarm systems													
.2	Fire alarms													
.3	Fire automatic sprinklers													
.4	Fixed steam systems													
.5	Fixed foam extinguishers													
.6	Fixed CO ₂ systems													
.7	Fire flaps and dampers													
.8	Automatic and manual fire doors													
.9	Emergency shut off valves, pumps stops and main engine stops													
.10	Describe the operation of the fixed extinguishing system for the engine room													
.11	State the safety precautions required prior to operating the systems													
13.5	Locate and use fire protective equipment (fire-fighting outfit, including breathing apparatus)													

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.1	Demonstrate the procedure and precautions required for entry into an enclosed space													
.2	Recognized the different uses for a Self-Contained Breathing Apparatus (SCBA) set an Emergency Escape Breathing Device													
.3	Demonstrate donning and use of SCBA sets													
.4	Demonstrate donning and use of a fire-fighting outfit													
.5	Demonstrate donning and use of a fire-fighting outfit with a SCBA set													
.6	Demonstrate the use of a SCBA record/control board													
13.6	Demonstrate ability to act in accordance with the fire-fighting plan during fire drills													
.1	Take charge of a party during an exercise													
.2	Demonstrate the use and isolation of all engine room safety appliances													
.3	Demonstrate a knowledge of all engine room escape routes													
14.	Competence: Operate life-saving appliances													
4.1	Organise abandon ship drills													
.1	Understand the hazards to seafarers of manning life boats for drills and exercises													
.2	Understand the need to be familiar with the operation of the on-load release mechanisms													
.3	Recognised that fall prevention devices (FDs), where fitted, should be used in drills (to prevent unforeseen detachments)													

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.4	Recognise the need for meticulous inspection and maintenance of on-load release mechanism													
.5	Identify the permanent marking on survival craft with regard to the number of occupants													
.6	Locate and test the operation of: Radio devices including satellite EPIRBs and SARTs													
.7	Pyrotechnic distress signals													
.8	State precautions for disposal of out of date pyrotechnics													
.9	Understudy an officer in charge of an abandon ship drill													
14.2	Launch, handle and recover a lifeboat													
.1	Assist with preparation and swinging out of lifeboats and be aware of potential risks													
.2	Assist with preparation and boarding of free fall lifeboat and be aware of potential risks													
.3	Assist with lowering a lifeboat to clear the ship and ride to a sea anchor													
.4	Start and operate a lifeboat engine													
.5	Crew a boat under: Oars Power													
.6	Cox a boat under Oars ☐ Power													
.7	Assist with recovering and securing a lifeboat													
.8	Assist with recovering a securing a free fall lifeboat													

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14.3	Launch or throw overboard a life raft, and manoeuvre it clear of ship's side													
.1	Demonstrate an understanding of the procedure for launching and inflating rafts, if the opportunity arises													
14.4	Operate radio life-saving appliance													
.1	Rig and operate the portable lifeboat radio under supervision													
14.5	Ensure that all required equipment on board a rescue craft is functioning and maintained as specified in the SOLAS Training Manual													
.1	Demonstrate an understanding of statutory equipment required in survival craft and its correct use													
.2	State minimum food and water requirements for occupants of survival craft													
.3	Locate and understand operation of pyrotechnics including precautions for their disposal													
.4	Explain the operation of rocket line throwing apparatus													
.5	Explain the operation of distress rockets, flares and other pyrotechnics													
.6	Assist with the maintenance of: Lifeboat and rescue boats													
.7	Lifeboat equipment and provision													
.8	Launching davits and gear													
.9	Buoyant apparatus, e.g. lifebuoys, lifejackets and attachments													
.10	Immersion suits and thermal protective													

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16.	Competence: Monitor compliance with legislative requirements													
16.1	State where laws, rules and regulations concerning ship operation and pollution prevention are available													
.1	Participate in engine room oil and oily waste handling operations in compliance with MARPOL													
.2	Dispose of garbage in compliance with MARPOL and ship's Garbage Management Plan													
.3	Assist in checking machinery and equipment prior to survey													
.4	Participate in shipboard inspection prior to an international Oil Pollution Prevention (IOPP) survey													
16.2	Searching for stowaways													
.1	Carry out a stowaways search													