SYDNEY HERITAGE FLEET

SS *WARATAH* & SL *LADY HOPETOUN*

ENGINEERING STANDING ORDERS, 2023-01

1.0 CHANGE LOG

2023-01: This version specifies the Waratah Chief Engineer's responsibilities regarding boiler warm-up (see section 4.1.1).

2.0 INTRODUCTION

- These Orders supersede all earlier versions of this document.
- These Standing Orders have been prepared as a basis for ensuring that the vessels are operated and maintained with competence and safety of both the vessel and all people taking passage. They are a minimum list of operational requirements and must be read in accordance with the vessel Operating Manual to achieve this purpose.
- All engineering crew are required to familiarise themselves with these Orders and to follow them.
- No routine changes are to be made to any operating procedures without the approval of the Executive Chief Engineer and the Engineering Superintendent.
- Any queries, requests for clarification or suggestions in reference to these orders are to be directed to the duty Chief Engineer, the Executive Chief Engineer or the Engineering Superintendent.
- It is expected that no person will be appointed or accept appointment to any position who is not qualified, sufficiently experienced and confident of properly discharging the duties and responsibilities of their position. Therefore these Orders assume individuals will apply their knowledge, training and experience consistent with good and safe practice.
- Sydney Heritage Fleet (SHF) maintains and operates its vessels in order to preserve our maritime heritage and to demonstrate the vessels, machinery and skills of their era to the wider community. As custodians of these living artefacts, we are committed to ensuring the longevity of our vessels by operating them with due regard to their importance as heritage items and their age and susceptibility to wear and tear. Generally, SHF vessels are operated under commercial survey but cannot satisfy all modern-day standards, and engineering crew must be aware of the structural, stability and safety limitations of their vessel and equipment.
- SHF vessels are merchant ships under the red ensign and organised accordingly. Engine Room personnel should respect and reflect the proud traditions of the Merchant Navy.

- Nothing in these Orders restricts or prohibits the Chief Engineer on any voyage from taking any action he deems necessary to ensure the safety of the vessel, her crew, passengers or machinery.

- Wherever in these Orders the singular is used this also includes the plural.

- Wherever the text relates to "He" this is not intended to be gender specific.

3.0 RESPONSIBILITIES

3.1 Chief Engineer

The Master is in command of the vessel and the Chief Engineer is the senior Engineer Officer and head of the Engine Room Department, responsible for the safe and correct operation of all propulsion and auxiliary machinery on board and for the integrity of the structure and plating of the vessel. The Chief Engineer must be aware of the construction of the vessel and fully understand the duties and Standing Orders relating to subordinate Engineer Officers, Second Engineer, Fireman, and Assistant Engineer. The Chief Engineer, under the overall authority of the Master, is in charge of the engineering crew and their work and directs them accordingly. The Chief Engineer is to ensure that the engineering crew are aware of and comply with the Standing Orders, safe work practices and his specific orders. The Chief Engineer is to assist in the training of engineering crew as required by the Fleet Engineering Superintendent, Fleet Engineering Council or Executive Chief Engineer.

The Chief Engineer may be the only engine room crewman holding the required Certificate of Competency but is in any case discharging a senior role in the ship's organisation, usually mandated by law. The position entails statutory responsibilities and liabilities which cannot be avoided or passed to others. The individual acting as Chief Engineer must conduct himself accordingly.

3.2 Second Engineer

The Second Engineer is under the charge of the Chief Engineer and takes direction from them. The role is to assist the Chief Engineer and act as a delegate in supervising other Engine Room personnel. Responsibilities are to attend the main and auxiliary machinery and, if required by the Chief Engineer to man the manoeuvring position.
The Second Engineer will ensure the engine room is kept clean and tidy. They may also be asked to assist in firing and ash removal, to drive the windlass (ST *Waratah* only) or to assist on deck in an emergency.
This position may also be used as an understudy or training position for familiarisation of Engineer candidates for promotion to Chief Engineer.
Where an Assistant Engineer is not carried, the Second Engineer will carry out that role.

3.3 Fireman

The Fireman is under the charge of the Chief Engineer. The responsibilities include firing the boiler to maintain the required steam pressure, removing the ash from the boiler, brushing the boiler tubes, trimming the bunker, and keeping the stokehold tidy. The Firemen may also be asked to drive the windlass (ST *Waratah* only) or assist in the engine

room or on deck

3.4 Trainees

All trainees, engineers and firemen, are under the charge of the Chief Engineer. The trainee fireman works under the direction of the fireman to operate the boiler in a safe manner.

3.5 Assistant Engineer

The Assistant Engineer is under the charge of the Chief Engineer and in addition takes direction from the Second Engineer. The Assistant Engineer's responsibilities are to oil and attend the main and auxiliary machinery and, if required by the Chief Engineer or the Second Engineer, to take charge of the manoeuvring position. They will ensure the engine room is kept clean and tidy. The Assistant Engineer may also be asked to assist in firing and ash removal, to drive the windlass (ST *Waratah* only) or to assist on deck.

3.6 All Engineering Crew

The conditions in the Engine Room and Stokehold include extreme heat, humidity and exposure to other products of combustion. These spaces and other compartments where engineering personnel may be required to work have other hazards as well. It is incumbent upon all engineering personnel to be aware of these hazards in respect to themselves and others. In particular, engineering crew should be aware of the effects of heat exhaustion, dehydration, over exertion or similar and that these conditions are potentially life threatening. Any signs of heat stress or the like in their shipmates, especially Firemen, must be reported immediately to the Chief Engineer or the Master where the Engineer is the person affected, so that appropriate First Aid can be rendered.
The *Waratah* stokehold is fitted with an alarm to summon assistance in the event of any emergency, medical or otherwise.
Due to the heavy work load in operating the *Waratah's* boiler, except with the express approval of the Executive Chief Engineer, this vessel will not normally be operated with less than two firemen, one of whom may be a trainee.

3.7 Visitor Access to Machinery Spaces.

No visitors are allowed to visit the machinery spaces without the express permission of the Chief Engineer. Visits must comply with the instructions and guidance in the Ship's Standing Orders

4.0 Operations

4.1 Raising steam

Raising steam from cold will commence with lighting the fire 24 hours (*Waratah*) or 2 hours (*Lady Hopetoun*) before the departure time and will be conducted in accordance with the vessel operating manual. Particular care will be taken to ensure the boiler temperature is raised evenly throughout to prevent undue stress to the structure.
Under no circumstances is any fire to be lit in the Boiler until the water level has been established and it is therefore safe to do so.

In *Waratah* the electric Boiler Water Circulating pump must be used during steam raising

in accordance with the operating procedures.

4.1.1 Chief Engineer (Waratah)

The Chief Engineer will ensure that there is sufficient boiler pressure at the scheduled time of departure. This may require:

- Checking that the initial warm-up (usually done on the day before the trip) is performed
- Appointing someone to relight the fires at an appropriate time on the day of the cruise.

4.2 Preparing to get underway

4.2.1 Chief Engineer

The Chief Engineer will direct preparation of the ship's machinery for operation in accordance with the Engineers Training Manual he will ensure that all machinery is properly prepared, warmed through as necessary and tested before departure. It is the Chief Engineer's responsibility to ensure that the vessel's propulsion and auxiliary machinery are fully functional and safe to operate, including testing and proving of all safety appliances.

When possible, the Chief Engineer should conduct a safety drill (Emergency Preparedness Training) involving all Engine Room personnel prior to departure and involving allocation of crew to an Emergency Station and explanation of the signals to be given and each person's duties or likely duties. The drill should address at least one of the following emergencies:

- Flooding
- Fire
- Man overboard
- Critical Breakdown (including serious steam leak)

The Chief Engineer must consult with the Master with regard to the drill before it occurs.

The Chief Engineer must be satisfied that all personnel know the location, purpose and operation of general safety equipment and equipment specific to their Emergency Station, are able to don a lifejacket and instruct others in doing so, and understand the procedures applying to Abandon Ship. An appropriate entry to this effect including details of the drill and those participating, should be made in the Engine Room Log.

When the he is fully satisfied that the machinery of the vessel, bunkers, fresh water and engine room are in all respects ready for departure, the Master should be advised. In this regard, it is the sole prerogative of the Chief Engineer to determine the status of the vessel.

4.2.2 Firemen

The Fireman on *Lady Hopetoun* will commence duties 2 hours before departure. On *Waratah* the Chief Engineer will determine the starting time – usually between 1½ and 4 hours before departure.
The Firemen will raise steam and prepare for departure in accordance with the vessel

operating manual. The Firemen should have the boiler at full working pressure at least 10 minutes prior to scheduled departure.

4.2.3 Second Engineer
Assistant Engineer

These Engineers will work with the Chief Engineer to prepare the ship's machinery for operation. They will prepare and test the ship's machinery only as directed by the Chief Engineer and in accordance with the vessel operating manual.

4.3 Under Way

When under way the duties of the engineering crew are as follows:

4.3.1 Engine Room Telegraph (Waratah)

The Waratah engine room is fitted with an "Answering" telegraph. The function of this is to confirm to the bridge that their order has been received and understood. The correct operation is to match the requested movement by moving the engine room lever to match the bridge request, and then carry out the manoeuvre.

4.3.2 Chief Engineer

The Chief Engineer will ensure the ships machinery is operated in a safe and professional manner at all times and that the main engine is capable of responding to all telegraph commands in a timely manner. He will ensure that a competent person mans the engine control platform at all times. The Chief Engineer must not be absent from the Engine Room without notifying the Second Engineer or Assistant Engineer of this intention. The Chief Engineer must be present on the manoeuvring platform when the vessel is berthing or unberthing or steaming in high traffic areas. The Engine Room Log is to be filled out as necessary and read and countersigned by the Chief Engineer.

Boiler water sampling is to be carried out if required and the results entered into the ER Log.

The Chief Engineer will check the stokehold on a regular basis and consult with the Fireman to ensure that there are no problems and advise and instruct accordingly.

Lubrication of the main engine and auxiliary machinery will be carried out as dictated by the operation of the vessel and the Chief Engineers instructions. In consultation with the master the main engine will be stopped to allow oiling to be carried out in a safe and efficient way. When stopping the engine for oiling the following procedure will be adopted:

- Verbal agreement between the Master & the Chief Engineer as to a time and place where it is safe to stop.
- The telegraph will be rung to stop.
- The engine control station will be manned at all times.
- Oiling will be carried out as quickly as possible.
- Verbal communication to the master that the oiling is complete.
- The telegraph will be rung to the desired direction and speed.

- In the event of the engine being required, during the oiling procedure, due to some emergency, the telegraph will be rung rapidly and then set to the required speed and direction. The engineer at the throttle will ensure it is safe to start the engine by verbal communication with the engineer oiling and will then follow the telegraph directions.

When the vessel is returning to and nearing its final berth but prior to the final approach, the Chief Engineer will ensure the boiler pressure is appropriate and that the main engine is ready for manoeuvring. The Master will be advised accordingly.

4.3.3 Second Engineer

The Second Engineer will stand-by the Engine Room and carry out such duties as are allocated by the Chief Engineer. He will ensure the ships machinery is operated in accordance with the Chief Engineer's instructions in a safe and professional manner at all times and that the main engine is capable of responding to all telegraph commands in a timely manner.

4.3.4 Fireman

The Fireman's allocated station is the Stokehold to maintain steam at the operating pressure and operate the boiler in accordance with the vessel operating manual. The Fireman will inform the Chief Engineer of any issue that might affect the safe and smooth operation of the boiler. He must not unduly absent himself from his allocated station without obtaining the permission of the Chief or Second Engineer.

4.3.5 Assistant Engineer

The Assistant Engineer will help to operate the ship's machinery as directed by the Chief Engineer and in accordance with the vessel operating manual. Under no circumstances must the Assistant Engineer operate or alter any machinery unless in accordance with the Chief Engineer's orders.

4.4 Shutting down

The duties of the engineering crew during this operation are as follows:

4.4.1 Chief Engineer

The Chief Engineer will ensure that all the ship's machinery is shut down in a controlled and safe manner in accordance with the operating procedures.

It is important that the boiler is prevented from drawing a vacuum as it cools and this is achieved by leaving the main feed check valve open when the machinery is shutdown at the end of a voyage.

The Engine Room Log is to be completed and signed. Any defects are to be noted in the Defect Book. Any significant defects that could affect future steaming should be brought to the attention of the Executive Chief Engineer, the Engineering Superintendent, or Fleet Operations Manager as a matter of priority so that repairs can be made.

4.4.2 Second Engineer

The Second Engineer will assist the Chief Engineer in shutting down machinery as directed by him.

4.4.3 Fireman

The Fireman will shut down the furnaces in accordance with the vessel operating manual. The fires will be banked or left to burn down as dictated by the future sailing program and in consultation with the Chief Engineer.

4.4.4 Assistant Engineer

The Assistant Engineer will assist the Chief Engineer in shutting down machinery as directed by him.

Patrick Chandler
Engineering Superintendent
Jan 2023