

# Manual override switches for submersible bilge pumps, manually verifying the function of float switches, and independent high water-level alarms

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Maritime New Zealand Position Statement

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## Purpose of this position statement

This position statement sets out Maritime New Zealand's (Maritime NZ's) position on manual override switches for submersible bilge pumps, manually verifying the function of float switches, and independent high water-level alarms in the engine space and any other watertight compartment in a ship.

## Vessels it applies to

This position statement applies to all vessels where submersible bilge pumps are installed.

## Background

On most ships, when water rises in the engine space or in any other watertight compartment it causes a float switch to automatically activate the bilge pump or set off an audible alarm. However, if the float switch fails for any reason, the bilge pump or alarm will not be activated and the engine space or other compartment will fill with water.

The 40-series rules require float switches that automatically operate bilge pumps or set off an audible alarm if water reaches a certain point in a watertight compartment. However, the rules are silent on any requirement for ships with submersible bilge pumps to have a means to manually control those pumps, manually verifying the function of float switches, or having independent high water-level alarms.

Manually verifying the function of float switches will make it less likely that a float switch will fail to operate when needed. In the event that a float switch does fail, an independent high water-level alarm will provide early warning that water is entering the ship and an override switch will enable the bilge pump to be activated.

## Rule references

### Maritime Rules Parts 40A, 40C, 40D and 40E

#### 40A.28 – Bilge pumps

(2) ... each watertight compartment may be drained by at least one fixed electrically driven submersible bilge pump instead of a bilge main, if the following requirements are met –

....

(e) each submersible bilge pump is fitted with a float switch that automatically operates that pump or an audible alarm at the steering position. Any such float switch must be protected from jamming caused by bilge debris; and

(f) each submersible bilge pump has a visual alarm at the steering position to indicate when it is running.

The following rule references have similar wording to the Part 40A example above.

- 40C.24(2) (e) and (f)
- 40D.28C (1) and (3)
- 40E.25 (7) (d) and (e).

## Maritime NZ's position

It is good practice for an automatically controlled submersible bilge pump to be fitted with a manual override switch. Fitting such a switch is a way to ensure the bilge pump operates to the expected level of safety.

The switch should be kept away from the steering position, but a light at the steering position should indicate when the pump is activated as part of the visual alarm. A light should also show when the switch is in the manual position.



The switch should be left in the automatic position during normal operations, with the manual override only used in an emergency to by-pass the automatic function if that fails (for example, if the float switch gets jammed). It should be able to be placed in the manual 'on' position and remain there unaided should the bilge pump need to be activated manually.

The Maritime Rules may be considered as the minimum standard for maritime operators to achieve. Section 30 of the Health and Safety at Work Act 2015 (HSWA) requires duty holders to eliminate or minimise risks to health and safety, so far as is reasonably practicable. It may be 'reasonably practicable' for an operator to achieve a higher standard under HSWA than the standard specified in the Maritime Rules. Simple compliance with the Maritime Rules may not absolve an operator of responsibility under HSWA if that higher standard is found to have been 'reasonably practicable'.

Maritime NZ considers that fitting a manual override switch as described above could be interpreted as a reasonably practicable step for an operator to take to help minimise the risks to health and safety.

It is also good practice to: manually verify the function of the float switch as part of pre-departure checks; record its function as part of the operations maintenance routine; and install an independent high water-level alarm in the engine space and any other watertight compartment in the ship.