

11 May 2023

Patrick Dunford
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By email
Our ref: F32470

Dear Mr Dunford

Response to your information request – degree of redundancy for passenger ferries

I refer to your email of 6 May 2023 requesting under the Official Information Act 1982 (OIA):

“What is the degree of redundancy required when operating a large passenger ferry (e.g. Interislander or Bluebridge) on the Cook Strait?

For example, is it appropriate for all of the main engines to be dependent on a single cooling system or should redundancy be designed in the cooling systems?”

The requirements for machinery installations on ships such as large passenger ferries is regulated through 3 main mechanisms:

- The International Convention for the Safety of Life at Sea (SOLAS) is an international maritime treaty that sets the minimum safety standards in the construction, equipment, and operation of merchant ships
- New Zealand maritime rule Part 40B (Design, Construction & Equipment - SOLAS Ships), which implements SOLAS into New Zealand law
- Classification Society rules for hull & machinery

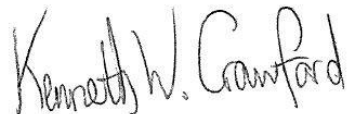
SOLAS applies to large passenger ferries, however it does not specify any prescriptive requirements for multiple main engines to have independent cooling systems. SOLAS is implemented into New Zealand law through the design, construction and equipment (DCE) requirements of maritime rule [Part 40B \(Design, Construction & Equipment - SOLAS Ships\)](#), which largely refers to the SOLAS (1974) convention (and its amendments). Finally, classification societies maintain their own rules for machinery installations of ships, which are based upon extensive research & development, insurance drivers and industry best practise. Ships are required to be “classed” with an appropriate classification society and therefore subject to their rules for classification.

The “degree of redundancy” required by SOLAS depends on the subject machinery system, ship size, and date of construction, and, depending on the applicable regulation may be general or prescriptive. For example, there are prescriptive requirements for SOLAS ships to have an emergency fire pump (or equivalent) as a means of redundancy, in the event of a fire in the engine room taking the main fire pump (in the engine room) out of service.

The classification society rules relating to redundancy can be sought from the relevant society and are not administered by Maritime New Zealand. The general SOLAS requirements regarding the reliability and redundancy of machinery installations on ships are in Ch. II-1 (**Construction – Structure, subdivision and stability, machinery and electrical installations**) Part C (**Machinery installations**). For example, Regulation 26 (**General**) provides for reliability or redundancy but in relatively general terms. You can find more about this here: https://www.imorules.com/SOLAS_REGII-1.html

I trust this information fulfils your request. Please note, this response, with your personal details removed, may be published on our website.

Yours sincerely

A handwritten signature in black ink that reads "Kenneth W. Crawford". The signature is written in a cursive, slightly slanted style.

Kenny Crawford
Deputy Chief Executive
Technical Advice and Support