



Australian Government
Australian Maritime Safety Authority

Novel vessel policy statement

June 2022

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Part A: Overview

This policy statement:

- ▶ identifies the types of vessels that AMSA considers to be 'novel' in accordance with the National Standard for Commercial Vessels (NSCV) Part B — General requirements
- ▶ clarifies what standards and other requirements novel vessels must comply with to gain design approval, and
- ▶ provides additional pathway information for novel vessels to gain vessel certification.

As AMSA develops guidelines and standards for emerging technologies, the list of 'novel' vessel types will change. AMSA will update the policy statement to reflect developments in this space.

Part B: Managing risks

The *Marine Safety (Domestic Commercial Vessel) National Law Act 2012* and its subordinate regulations (including marine orders and exemptions) require most new domestic commercial vessels (DCVs) to comply with the NSCV. The NSCV is a performance-based set of standards which contain mandatory 'required outcomes', and options to comply, including prescriptive 'deemed-to-satisfy' solutions.

Where a deemed-to-satisfy solution does not exist in the NSCV, such as for a novel vessel, emerging technology or industry innovation being developed within the maritime sector:

- ▶ then the vessel, or the novel aspect of the vessel, must still meet the required outcomes of the NSCV, and
- ▶ if the vessel is considered by AMSA to be a novel vessel, the vessel must be constructed and maintained in accordance with the rules of a recognised organisation.¹

For example, there is currently no defined criteria for the battery capacity at which a battery space becomes a moderate or high-risk fire space. As a result, the fire and other risks of a large-capacity battery installation are not addressed by the current deemed-to-satisfy solutions of the NSCV. Note that AMSA considers any space-containing, lithium-ion batteries to be a high fire-risk space for the purpose of NSCV Part C4.

¹ NSCV Part B Clause 3.2(2)

The requirement under NSCV Part B for novel vessels to be constructed and maintained in accordance with the rules of a recognised organisation addresses the gaps in deemed-to-satisfy solutions of the NSCV and manages the risks of emerging technology.

Where there are no classification society rules applicable to the novel or emerging technology, the recognised organisation must conduct a risk assessment to assist in identifying and managing the risks of the arrangement, as detailed in Part D of this policy.

Part C: 'Novel' vessel types

NSCV Part B 3.2(1) provides:

If the National Regulator considers that a vessel does not have the shape, form, function or propulsion of most vessels of a similar kind, the National Regulator may categorise the vessel as a novel vessel.

In accordance with this provision, AMSA considers the following vessel types to be 'novel' unless determined otherwise. AMSA may determine that a vessel of a type mentioned below is not novel based on its specific application.

Vessel types AMSA consider to be 'novel'

- ▶ Submarines
- ▶ Passenger-carrying submersibles
- ▶ Dynamically supported vessels (including fully foil-born, and vessels that are partially foil supported)
- ▶ Wing-in-ground effect (WIG) vessels
- ▶ Autonomous vessels greater than twelve metres in length, or those intending to carry people
- ▶ Vessels with alternative fuel technologies including hydrogen, ammonia, and gas-fuelled engines
- ▶ Vessels with electric propulsion and installed battery power exceeding 30kWh*.

* AMSA may consider larger battery power installations on application. For example, in circumstances where the system is inherently safe and issued a type approval by a recognised organisation based on applicable and relevant rules and type approval schemes for marine battery systems. Applicants must be able to demonstrate competency in design and installation.

Part D: Novel vessel certification pathway

NSCV Part B Clause 3.2(2) provides:

A novel vessel must be constructed and maintained in accordance with the class rules of a recognised organisation.

In accordance with NSCV Part B Clause 3.2(2), vessels considered to be novel vessels must be constructed and maintained in accordance with the rules of a recognised organisation. This means that the entire vessel must be constructed to the rules of a recognised organisation.

Where a recognised organisation's class rules provide that a requirement of the vessel's flag state is to apply, the relevant NSCV requirement(s) apply, as required under NSCV Part B Clause 3.1.

Where a recognised organisation's rules do not extend to a novel vessel, or a novel aspect of a vessel, i.e., fuel systems for alternate fuels such as hydrogen and ammonia, then the recognised organisation will need to conduct a risk assessment and demonstrate that the proposed arrangement is at least as effective in meeting the NSCV required outcomes as the conventional vessel deemed-to-satisfy solutions. Where available, international standards and conventions like the *International Code of Safety for Ships using Gases or other Low-flashpoint Fuels* (IGF Code) Part A 2.3 Alternative design, should be used to guide the risk assessments.

International standards and conventions covering alternative design arrangements

The use of alternative design and fuels is considered under the following international standards and conventions:

- ▶ AMSA as a Flag Administration may approve the use of alternative fuels as an example under the arrangements for alternative design within the *International Convention for the Safety of Life at Sea* (SOLAS) Chapter II-1 Part G.²
- ▶ The *International Code of Safety for Ship Using Gases or Other Low-Flashpoint Fuels* (IGF Code) Part A: 2.3 Alternative Design, allows for alternative designs and contains functional requirements for all appliances and arrangements related to the usage of low-flashpoint fuels. Under the IGF Code, low-flashpoint fuels like hydrogen are allowed as long as the alternative design approach demonstrates that the hydrogen-specific systems meet the intent of the goals and functional requirements concerned and provide

² See MSC.1/Circ 1455 for guidance on the alternative design process.

an equivalent level of safety to the relevant requirements. For the NSCV this would be demonstrating how the vessel meets the required outcomes.

The IMO's Formal Safety Assessment (FSA) methodology³ can also be used to determine alternate (safety) control measures. Similarly, a risk assessment may be required to ensure that a safe, robust design and systems are generated as part of the design process.⁴

Certification and approval

If satisfied with the recognised organisation's risk assessment and recommendation, the National Regulator will, upon application, approve an equivalent means of compliance (EMOC) for the proposed solution.

Where existing recognised organisation rules apply to the vessel, an EMOC is not required, as the vessel will have complied with the NSCV Part B Clauses 3.1 and 3.2.

Part E: Approvals and further information

For additional information about novel vessel policy please contact

DCVEmergingTech@amsa.gov.au

Approved by CEO:

A handwritten signature in black ink, appearing to be 'M. King', is written on a light blue background.

Date: 30 June 2022

³ Revised guidelines for Formal Safety Assessment MSC-MEPC.2/Circ.12/Rev.2.

⁴ Recognised organisations will often require a formal safety assessment and/or a risk assessment to accompany a plan approval submittal (this is especially the case when emerging technologies are involved).