

# Part 3B: Stability, Drainage, Freeboard, and Subdivision Rules

## Proposal Summary for Consultation

This document is part of a series of documents to support consultation on changes to the existing Design, Construction, and Equipment rules (the DCE rules). Other documents that form part of the consultation package include:

- *Invitation to Comment* - An overview of the consultation package and summary of the proposals, including information on how to have your say on the proposals.
- *Proposal summaries* - Details of the proposed changes for each of the four Rule topics being consulted on in this package: Watertight and Weathertight; Stability, Drainage, Freeboard, and Subdivision; Electrical; and Radio Equipment. This document is the proposal summary for Stability, Drainage, Freeboard, and Subdivision.
- *Draft Maritime Rules and draft Maritime Transport Instruments (MTIs)* – a set of rules and MTIs for each of the four Rule topics.
- A template to support preparation of your submission.

**These documents, and other supporting information, can be accessed at [www.maritimenz.govt.nz/public/consultation/DCE-40-series-package-2/](http://www.maritimenz.govt.nz/public/consultation/DCE-40-series-package-2/)**

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## Purpose of this document

1. Maritime New Zealand - Nō te rere moana Aotearoa (Maritime NZ) is proposing significant reform of the Maritime Rules for vessel design, construction, and equipment (the DCE Rules) for domestic commercial vessels.
2. This document provides the detailed analysis of the proposed new Stability, Drainage, Freeboard, and Subdivision Rules and Maritime Transport Instrument (MTI). It explains our understanding of the issues and current situation (the 'status quo') under the present rules, and sets out the analysis and rationale behind the proposed changes. Any potential impacts we have identified from the proposed amendments are also described. This information is intended to meet the Government's Regulatory Impact Analysis requirements.
3. This document should be read in combination with the Invitation to Comment that provides an overview of the proposed changes. It is available on our website at [www.maritimenz.govt.nz/public/consultation/DCE-40-series-package-2/](http://www.maritimenz.govt.nz/public/consultation/DCE-40-series-package-2/).

Note: the word 'ship' is used in the Maritime Transport Act 1994 and the proposed Rules and MTIs. This term is used to refer to any kind of boat or craft and does not refer to a craft of a specific size. For the avoidance of doubt, the terms vessel, ship and boat can be used interchangeably. This document uses the term 'vessel'.

## Introduction to Stability, Drainage, Freeboard, and Subdivision

4. The objective of the stability, drainage, freeboard, and subdivision requirements is to minimise the likelihood of a vessel capsizing and ensure it remains afloat if water enters the hull. In developing the proposals, a range of background documents were considered, including findings from the Transport Accident Investigation Commission (TAIC), relevant requirements in other jurisdictions, and investigations and reports undertaken by Maritime NZ and other industry professionals. A detailed list of the documents used is in Appendix 1.

## Reasons change is needed

5. The current DCE rules for stability, drainage, freeboard, and subdivision have known issues that need to be addressed.
  - **Lack of clarity – there are a range of terms used in relation to stability that can cause confusion as they are not well defined or overlap.** For example, terms such as partially open, partially decked, well deck, cockpit, or the distinction between a vessel that tows and a tug boat.
  - **Not fit for purpose – some of the current rules are potentially more onerous than necessary to address the risk.** For example, the current requirement for domestic vessels less than 24 metres to have a New Zealand Load Line Certificate if they carry "any" cargo. Conversely some of the current stability requirements are inadequate. For example, the swamp test requirements do not adequately address the risk posed to open vessels.
  - **There are gaps – the current rules do not set out stability requirements for all types of vessels.** For example, there are no stability requirements for open and partially decked passenger and non-passenger vessels 6 metres or more length overall (LOA), and decked fishing vessels less than 12 metres LOA not using towed gear.

6. As well as addressing these known issues, the proposals harmonise, to the extent practicable, and update the current requirements in line with modern international standards.

## Summary of proposed changes

7. The proposed changes to the current stability, drainage, freeboard, and subdivision rules are based on risk. They provide an approach that would better cater to the increasing diversity of vessels in the New Zealand fleet and the types of activities they undertake. The proposed changes would also focus more on the effects of a vessel's characteristics on its stability, for example, its ability to shed water, rather than an inflexible vessel designation.
8. This document is divided into two parts. Part A (The application of the proposed rules) and Part B (The proposed new rules for stability, drainage, freeboard and subdivision).

### Part A: The application of the proposed rules

9. Part A examines how the proposed new rules should apply to both existing vessels and vessels new to the fleet. It recognises that requiring existing vessels to redo their stability assessment would be costly and canvases ways to address this. It seeks to determine the right balance between ensuring operators and surveyors have adequate information to determine a vessel's safety, while also considering the financial implications of requiring a vessel to meet the new requirements.
10. **For existing vessels** – Part A does not specify where the balance point should lie between safety and cost. It invites feedback on how best to manage these competing factors and how the sector mitigates potential risks if the new requirements are not met.
11. **For vessels new to the fleet** – Part A proposes that the new rules should apply to all vessels that enter New Zealand's fleet. However, it does note that a surveyor could use a vessel's existing stability, if available, to determine whether the vessel meets the new requirements. Feedback is sought on what type of existing information would be appropriate to consider or accept.

### Part B: The proposed new rules for stability, drainage, freeboard and subdivision

12. Part B outlines the proposed new rules for stability, drainage, freeboard, and subdivision. These rules are generally based on a new approach that categorises a vessel in terms of its complexity and characteristics.
13. It is proposed that a vessel would be categorised as:
  - high or low complexity depending on factors such as its size, passenger capacity, cargo volume and the type and location of its operation (refer to Box 1 on page 14 of this document for the thresholds for determining a vessel as high complexity)
  - open or decked based on features of the vessel such as its minimum freeboard, residual stability and its ability to drain if swamped (refer to Appendix 2 for further information).
14. An overview of the proposed requirements, based on a vessel's complexity and characteristics, is set out in Table 1.

**Table 1: Proposed requirements based on a vessel's complexity and characteristics**

Ship's complexity and characteristics	Requirements based on a ship's complexity and characteristics
<b>Low or high complexity</b>	A vessel must be categorised as low or high complexity – refer draft Rule Part C2.2
<b>Open or decked</b>	A vessel must be categorised as open or decked – refer draft Rule Part C2.3
<b>Low complexity</b> <i>Open ship</i>	<p>A vessel must undergo a:</p> <ul style="list-style-type: none"> <li>- swamp test, heel test, and person rescue and recovery test (for ships certified for three or more persons)</li> <li>- damage test (for vessels with inflatable collars and air chambers).</li> </ul> <p>A ship must:</p> <ul style="list-style-type: none"> <li>- comply with damage stability requirements (general requirements only)</li> <li>- have minimum freeboard to gunwale assigned.</li> </ul>
<b>High complexity</b> <i>Open ship</i>	<p>A ship must undergo a:</p> <ul style="list-style-type: none"> <li>- comprehensive intact stability assessment</li> <li>- damage test (for vessels with inflatable collars and air chambers).</li> </ul> <p>A ship must:</p> <ul style="list-style-type: none"> <li>- comply with damage stability requirements (general requirements only)</li> <li>- comply with drainage requirements (may use bilge pumps able to withstand swamp event)</li> <li>- have minimum freeboard to gunwale assigned and marked</li> <li>- have draught marks if 12m or more LOA.</li> </ul>
<b>Low complexity</b> <i>Decked ship</i>	<p>A ship must undergo a:</p> <ul style="list-style-type: none"> <li>- heel test</li> <li>- damage test (for vessels with inflatable collars and air chambers).</li> </ul> <p>A ship must:</p> <ul style="list-style-type: none"> <li>- comply with damage stability requirements (general requirements only)</li> <li>- comply with drainage requirements</li> <li>- have minimum freeboard to deck assigned</li> <li>- comply with subdivision requirements if 12m or more in LOA.</li> </ul>
<b>High complexity</b> <i>Decked ship</i>	<p>A ship must undergo a:</p> <ul style="list-style-type: none"> <li>- comprehensive intact stability assessment</li> <li>- damage test (for vessels with inflatable collars and air chambers).</li> </ul> <p>A ship must:</p> <ul style="list-style-type: none"> <li>- comply with damage stability requirements</li> <li>- comply with drainage requirements</li> <li>- have minimum freeboard to deck assigned and marked</li> <li>- have draught marks if 12m or more in LOA</li> <li>- comply with subdivision requirements if 12m or more in LOA.</li> </ul>

15. The main changes are explained across three proposals. These are summarised below and set out in more detail on pages 15 to 38. Each proposal highlights how the proposed changes differ from the current requirements and examines the potential impacts on vessels that must comply with the new requirements.

### **Proposal 1: Setting stability requirements for all vessels**

16. This proposal examines the implications of the new approach for categorising vessels, based on their complexity and characteristics, on the stability requirements a vessel must meet.

17. Categorising a vessel based on its complexity and characteristics would result in changes for some vessels.

- Some vessels may no longer be required to undergo a comprehensive stability assessment. For example, vessels that are more than 15 metres LOA, but less than 24 metres load line length (LLL), that do not meet the threshold of a high complexity vessel.
- Some vessels would be required to undergo a stability assessment where currently not required to do so. For example, there are currently no stability assessment requirements for passenger and non-passenger open vessels that are 6 metres or more in LOA. Under the proposal these vessels would be required to have their stability assessed. What assessment would be required would depend on whether they were categorised as a high or low complexity vessel.
- Some vessels would be required to undergo a more extensive stability assessment, for example, a passenger or non-passenger open vessel less than 6 metres LOA. Currently they are required to have a swamp test. Under the proposal they would be required to undergo a heel test and person rescue and recovery test<sup>1</sup> in addition to a swamp test.

### **Proposal 2: Stability test and documentation requirements**

18. This proposal focuses on proposed changes to the specifications for the different stability tests and the introduction of new requirements for stability documentation.

19. The proposed changes would ensure the tests are fit for purpose and are in line with modern international standards.

- For the swamp test – specific criteria for allowable heel and trim (12 degrees), more explicit requirements for reserve buoyancy, and being explicit that a swamp test can be undertaken by computer modelling or calculations.
- For the heel test – reduction of the allowable heel (combined heel and trim angles) from 15 degrees to 12 degrees.
- A person rescue and recovery test – a new requirement for open vessels that are certified for three or more people.
- For the comprehensive stability assessment – generally similar to existing criteria, except the removal of the simplified GM assessment pathway for fishing vessels less than 12 metres in LOA that are engaged in operations using towed gear.

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<sup>1</sup> If certified to carry three or more people.

20. There are also proposed changes for specific activities and the input parameters.
- For lifting – open vessels would not be able to be fitted with lifting appliances with safe working loads exceeding 300 kg or 1 percent lightship, whichever is greater. For low complexity open vessels, there would be a maximum 7 degree angle of heel or minimum heeled freeboard of 250 mm around the periphery of the vessel when lifting.
  - For towing – there would be specific towing requirements for vessels likely to tow a vessel that is greater than twice the displacement of the towing vessel. The requirements would differ depending on whether the vessel is likely to tow a vessel more than twice the displacement of the towing vessel or greater than twice the length of the towing vessel.
  - The weight of people used in the assessment would increase from 75 kg to 80 kg.
  - The maximum passenger distribution of four persons per square metre would apply to all vessels not just passenger vessels.
  - Stability documentation would be required for all stability assessments.
21. Except for fishing vessels that are currently able to utilise the simplified GM assessment<sup>2</sup> pathway, there is likely to be minimal impact on the survey process as a result of proposed changes to the stability tests and documentation. Fishing vessels that are currently able to use the simplified GM assessment would be required to undertake the more extensive GZ analysis.<sup>3</sup> A GZ analysis requires more time, data, and computational effort compared to a GM analysis.
22. In addition, the proposed changes to the stability tests, which reduce allowable heel, may impact the operation of some vessels by reducing the number of passengers or quantity of cargo able to be carried where a vessel is operating close to its operating stability limit.

### **Proposal 3: Assigning and marking freeboard**

23. This proposal considers the implications of the following changes.
- The removal of load line requirements for vessels less than 24 metres LLL carrying any cargo.
  - Changes to how assigned freeboard is calculated and the requirement for high complexity vessels to have a freeboard mark or visual placard.
24. It is proposed that all vessels less than 24 metres in LLL would be required to meet the proposed freeboard requirements. This would be a significant cost savings for these vessels if they carry any cargo as they would no longer incur the ongoing costs<sup>4</sup> associated with load line surveys and certification under Part 47 Section 2 of the current rules.
25. However, it is proposed that all high complexity vessels would be required to have a freeboard mark or visual placard. This would be a new requirement for passenger and non-passenger

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<sup>2</sup> GM (metacentric height) – the distance between the vertical centre of gravity and the metacentre. The higher the value the greater the initial stability.

<sup>3</sup> GZ righting lever, or righting arm means the horizontal distance between the centre of gravity (G) and the centre of buoyancy (B).

<sup>4</sup> Load line survey and certification must occur at intervals not exceeding five years. It is estimated the survey fees for this type of survey would be approximately \$500 to \$1,000. This estimate does not factor in surveyor travel time which could be several thousands of dollars if the vessel is in a remote location or not located close to their surveyor.

vessels less than 24 metres in LLL that do not carry cargo as they are currently not required to meet the load line requirements.<sup>5</sup> It is unlikely to be an additional requirement for the majority of fishing vessels as they are already required to have their freeboard marked, unless they are less than 12 metres LOA and not involved in a fishing operation that tows gear.

26. In addition, the freeboard assignment for a high complexity vessel would no longer be a prescribed tabulated freeboard but based on a vessel's stability assessment or scantling strength, supported by prescribed minimum requirements. This would provide for greater flexibility and innovation for designers and operators.

### Other proposed changes

27. **Major alteration, change of operation, or change in lightship condition.** It is proposed that a vessel would be required to have its stability assessed if it undergoes a major alteration or a major change to its operation or any other change that causes a vessel's lightship condition to differ, either individually or cumulatively, by equal to or greater than:

- 4% lightship displacement
- 2% longitudinal centre of gravity (as a percentage of LOA)
- 1% vertical centre of gravity.

28. **Subdivision.** The proposed subdivision requirements would:

- harmonise the collision bulkhead requirement and set the requirement at 15 metres or more in LOA—current threshold is 15 metres for passenger and non-passenger vessels and 12 metres for fishing vessels
- harmonise requirements for bulkheads at end of each machinery space and set the requirement at 12 metres or more in LOA—current threshold is 12 metres for passenger and non-passenger vessels and 16 metres for fishing vessels
- allow step collision bulkheads and openings in the collision bulkheads on vessels less than 24 metres LLL—current threshold is 20 metres in length.

29. **Drainage.** It is proposed that the drainage requirements would:

- address situations where water can be retained in a recess or on a deck for an extended period of time—the current drainage requirements are specific for vessels with cockpits
- be based on the vessel's size, for example, where a vessel has a recess over a certain volume<sup>6</sup> it must be able to self-drain within two minutes for a vessel less than 12 metres LOA or three minutes for a vessel of 12 metres or more but less than 24 metres LOA—the current drainage requirement is a uniform three minute drainage time
- increase the drainage requirements where the freeing ports are in the transom.

30. There are also other minor changes related to improving clarity and closing the gaps in the current rules.

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<sup>5</sup> Note that the high complexity threshold, as it relates to cargo, is that the vessel carries cargo that is greater than would equal to 8 percent lightship displacement.

<sup>6</sup> A recess with a volume greater than the product of length overall, multiplied by maximum beam, multiplied by minimum freeboard, divided by 40 cubic metres.

## Implementation

31. The Rule Part and MTI that will implement this proposal are set out below.

- Part 3B: Maritime (Design, Construction and Equipment – Stability, Drainage, Freeboard, and Subdivision) Rules.
- Maritime Transport (Stability, Drainage, Freeboard, and Subdivision) Instrument.

### Timing / Commencement date

32. The Rule Part and MTI are expected to come into force in 2026. Note that this date is subject to analysis of submissions received during consultation, and Ministerial agreement to any changes subsequently made in response.

33. A decision on the application of these rules to existing vessels has not yet been made. Refer to Part A of this document for discussion on the factors that are being considered in making that decision.

34. Following this round of consultation, Maritime NZ will develop a proposal on the application of these rules to the existing fleet. This proposal will be consulted on prior to the new rules coming into effect.

### Products envisaged to support implementation

35. Maritime NZ will provide a short guide for the sector explaining the changes introduced by the new stability, drainage, freeboard, and subdivision requirements.

## What do the changes mean for my ship/vessel/boat?

36. A 'snapshot' of the proposed Stability, Drainage, Freeboard and Subdivision changes is included in Appendix 3 to this document.

37. It is proposed that sailing ships would continue to comply with the stability, drainage, freeboard, and subdivision requirements currently set out in sections Rule 40E.8 to 40E.11,<sup>7</sup> with the exception that all sailing ships that are required to have their stability assessed would need to comply with the post-2010 stability requirements.

38. Decisions have not yet been made as to the location of the stability, drainage, freeboard, and subdivision requirements for sailing ships, that is, whether they are included in this Rule Part or a Rule Part specifically for sailing ships. Although the location of the rules will change, the requirements will not.

Please note that this document sets out the main changes that are proposed but does not include all changes that may have an impact on a vessel or operation. Therefore we strongly recommend you also refer to the draft rule and maritime transport instrument.

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<sup>7</sup> Maritime Rules Part 40E: Design, Construction and Equipment – Sailing Ships.

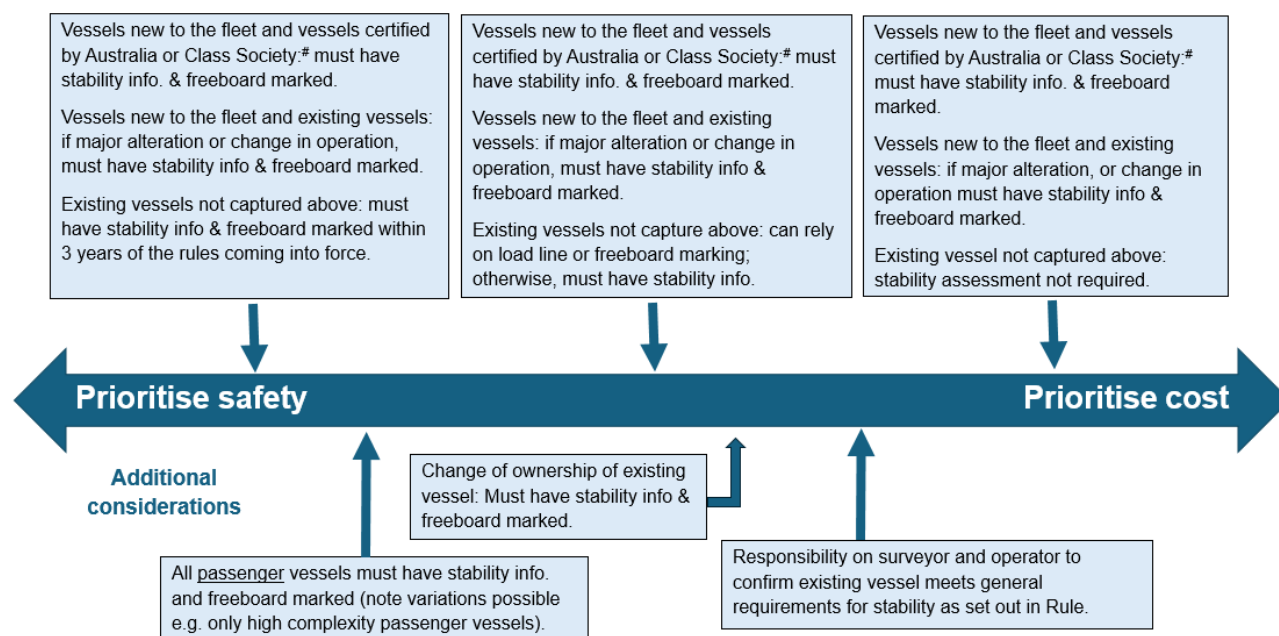
## Part A: The application of the proposed rules

39. Part A examines how the proposed new stability, drainage, freeboard, and subdivision rules could apply to existing vessels and vessels new to New Zealand’s fleet, taking into consideration safety, cost, and practicality.
40. An overview of the proposed approach and considerations is set out in Figure 1.

### Existing vessels

41. Determining how to apply the proposed new rules to existing vessels requires decisions on how to balance a vessel's safety with the costs and practicalities of requiring some existing vessels to undertake or redo stability assessments, have a freeboard marked or visual placard,<sup>8</sup> or produce additional stability documentation.
42. The result of a stability assessment, and a freeboard mark or visual placard, are important for the operation of a vessel and should be considered throughout the life of the operation of the vessel, including when loading or unloading, undergoing a major alteration, or changing its operation. However, for a variety of reasons an operator may not hold stability information for an existing vessel, or an existing vessel may not have a freeboard mark, including because it was not required or the information has been lost over time.
43. Requiring some existing vessels to meet the new requirements could impose a substantial cost. Refer to the proposals in Part B of this document for a breakdown of the potential costs and the types of vessels that may be impacted.

**Figure 1: Options for applying requirements to new and existing vessels**



<sup>#</sup> Vessels certified by Australia or a recognised classification society. It is proposed that a second-hand vessel entering New Zealand's fleet and holding a current certificate of survey issued by Australia or a recognised classification society would be treated as an existing vessel, with some exceptions related to transition periods, safety and passenger accessibility. Refer to the Invitation to Comment document for further information.

44. If the primary concern were safety, then the logical decision would be to require existing vessels to meet the requirements on the left hand side of Figure 1, that is, that an existing

<sup>8</sup> If they are a high complexity vessel.

vessel would have three years to transition to the new stability and freeboard requirements. On the other hand, if cost were the primary concern, then an existing vessel would only need to meet the requirements of the right hand side of Figure 1, that is, that an existing vessel would only need to meet the new requirements if it underwent a major alteration or change in operation.

45. In making rules, the decision makers<sup>9</sup> must have regard to a range of matters, including both safety and the cost of implementation. To determine the right balance, Figure 1 outlines additional factors that could be considered, including requiring:

- passenger vessels to meet the new requirements (after a transitional period), the rationale being that:
  - o passenger vessels potentially carry large numbers of people that are not trained in the event of an emergency
  - o passengers have no influence over the standard of a vessel and rely on the regulatory system to set the standards at an appropriate level of safety
- vessels that have changed ownership to meet the new requirements, the rationale being that:
  - o the new operator would not be familiar with the vessel's stability limitations in terms of its operational and loading conditions
  - o similar to a vessel entering the fleet (discussed below), an operator can factor the costs of the additional requirements into the purchase price of the vessel
- all vessels to meet the general requirements for stability,<sup>10</sup> the rationale being that this would place a responsibility on both the surveyor and operator to ensure that the vessel exhibits characteristics of stability over the range of its expected activities.

46. As part of this consultation process, feedback is sought on how best to manage these competing factors and how the sector could address the potential risks if the new requirements are not met.

### **Vessels new to the fleet**

47. It is proposed that the new rules would apply to a vessel that is new to the fleet at the point of entry, because:

- the proposed changes discussed in Part B of this document:
  - o are designed to ensure the stability, drainage, freeboard, and subdivision requirements are fit for purpose
  - o address gaps in the rules where there are no requirements, or limited requirements, for some types of vessels and operations
- an operator, when making a decision to purchase a vessel for the New Zealand fleet, can factor in the costs of any additional assessments or requirements into the purchasing decision.

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<sup>9</sup> The Minister, the Governor-General, or the Director of Maritime New Zealand is able to make secondary legislation under the Maritime Transport Act 1994.

<sup>10</sup> Set out in Part 3B, Subpart C Section 3 and 4.

48. While the proposal would see the new requirements applying to a vessel at the point of entry it would not necessarily mean that vessels would have to have their stability completely reassessed if they already had some stability information.
49. It is proposed that where existing information is available a surveyor would be able to consider that information and determine what if any additional assessments would be required to meet the requirements of the new rules.

**Questions:**

- SF A.1 How should the proposed new rules apply to existing vessels?
- SF A.2 Do you agree that any or all of the additional considerations, set out in Figure 1, should be factored into the decision on how to apply the proposals to existing vessels? Are there other factors that should be considered?
- SF A.3 If you do not currently have stability information available, or do not a freeboard mark or placard, how do you manage any potential stability issues that could arise during the operation of your vessel?
- SF A.4 How should the proposed new rules apply to a vessel that is new to the fleet?
- SF A.5 What type of stability information would a vessel that is new to the fleet likely have?

## Part B: The proposed new stability, drainage, freeboard, and subdivision rules

### A new approach for categorising vessels based on their complexity and characteristics

50. The proposed rules introduce a new approach for determining what stability, drainage, freeboard, and subdivision requirements a vessel would need to meet. The approach ensures that the requirements imposed are proportionate to the risk posed by a vessel and its operation. It also ensures that the requirements better cater to the increasing diversity of vessels in the New Zealand fleet and the types of activities they undertake.
51. The new approach categorises vessels based their complexity (high or low) and whether they are open or decked.
- A vessel would be categorised as high complexity if it met any of the thresholds outlined in the Box 1 below. A low complexity vessel would simply be one that does not meet the threshold of a high complexity vessel (refer to the draft Rule Part C2.2).
  - A vessel would be categorised as open or decked based on characteristics such as its minimum freeboard, residual stability<sup>11</sup>, and its ability to drain if swamped (refer to the draft Rule Part C2.3 and Appendix 3 of this document for further information).
52. Consolidating the terms used to categorise a vessel's configuration, and only using the terms open and decked, provides greater clarity for those applying the rules. The current rules use several descriptors of a vessel's configuration, including open, non-decked, decked, fully decked, well decked, or cockpit. This potentially leads to inconsistencies in how the rules are applied as these terms are used throughout the current rules to set specifications and limitations for a vessel.<sup>12</sup>
53. The implications of the new approach on the application of the stability and freeboard requirements are discussed as part of Proposals 1 and 2 (Stability) and Proposal 3 (Freeboard). For example, a low complexity open vessel would require a swamp test, a heel test, and a person rescue and recovery test to assess its stability; and a high complexity vessel would be required to have a freeboard mark or visual placard.
54. The new approach does not generally affect how the proposed drainage and subdivision changes are applied. These changes are primarily based on harmonising the current rules across different vessel types and operations. These changes are set out in the "Other proposed changes" section of the summary on page 8.

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<sup>11</sup> The residual stability criteria are derived from single compartment damage stability criteria in the current rules as a swamped recess is considered to be a type of damage condition (although temporary pending the drainage of the water in the recess).

<sup>12</sup> Maritime New Zealand issued an Interim Technical Note (ITN-01-20) to provide clarification related to hull configuration as it relates to small boats and the freeboard requirements.

**Box 1: Thresholds for determining a vessel to be high complexity**

It is proposed that the rule would define a high complexity vessel as one that meets one or more of the following thresholds:

- is 24 metres or more in load line length (LLL); or
- is certified to carry more than 50 persons on board, or more than 12 persons on board if it is an open ship; or
- operates beyond restricted limits or inshore fishing limits; or
- carries cargo, other than catch, greater than would equal 8 percent lightship displacement; or
- engages in towing as part of standard operations and where the towed object's length overall (LOA) is greater than twice the LOA of the towing ship; or
- engages in lifting where the safe working load of the lifting device exceeds 1 percent of the ship's lightship displacement, or 300 kilograms, whichever is the greater; or
- is a fishing ship of 12 metres or more LOA; or
- is an open ship of 12 metres or more LOA; or
- is a fishing ship and engages in trawling, dredging or other activities where heavy gear is towed, or is engaged in purse seining.

**Questions:**

SF B.1 Do you agree with using the new approach, of categorising a vessel according to its complexity (high or low) and characteristics (open or decked), for determining a vessel's stability, drainage, freeboard, and subdivision requirements?

*[Answers: Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why/why not?

SF B.2 Do you agree with the thresholds for determining whether a vessel is high complexity? Are the thresholds set at the right level? Are there additional factors that could be considered?

SF B.3 Do you agree with consolidating the terms used to categorise a vessel's configuration and only using the terms open and decked? Do you agree with how the distinction between an open and decked vessel is determined?

*[Answers: Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why/why not?

## Proposal 1: Setting stability requirements for all vessels

### What we are proposing

It is proposed that stability requirements would be set out for all vessel types and operations.

There are a variety of methods to determine a vessel's stability, including assessing a vessel's intact stability through tests such as a comprehensive stability assessment, heel test or swamp test. Ensuring a vessel's stability in a damaged state is also important. What is appropriate comes down to the nature of the vessel and the level of risk involved by the operation.

In terms of assessing a vessel's intact stability, the comprehensive stability assessment provides a detailed and rigorous evaluation of a vessel's stability and is more suited for vessels with complex operations. In contrast, the swamp test is a simpler method that ensures a vessel meets basic stability standards. The heel test is a practical middle ground, offering a basic stability check without the extensive requirements of a full assessment.

The proposed requirements, summarised in Table 2, are set so they would be proportionate to the risk posed by a vessel and its operation.

The requirements are based on the new approach, discussed on pages 13 and 14, that categorises vessels in terms of their complexity (high or low) and their characteristics (open or decked).

**Table 2: Overview of the stability requirements based on how a vessel is categorised**

	Low complexity vessel		High complexity vessel	
	Open	Decked	Open	Decked
<b>Must undergo</b>				
Swamp test	✓			
Heel test	✓	✓		
Person rescue and recovery test	✓			
Comprehensive stability test			✓	✓
Damage test (for vessels with inflatable collars and air chambers)	✓	✓	✓	✓
<b>Must meet</b>				
Damage stability requirements	✓ (general requirements only)	✓ (general requirements only)	✓ (general requirements only)	✓

The primary factor for determining what assessment would be required is whether a vessel is categorised as high or low complexity. For example, a vessel categorised as high complexity (regardless of whether it is open or decked) would be required to undergo a comprehensive stability assessment.

However, whether a vessel is open or decked would also influence what assessment requirements would apply. In the case of an open vessel, limitations on how the vessel would be able to operate would be imposed as open vessels are more vulnerable to swamping.

For example, an open vessel would not be able to proceed beyond restricted limits or inshore fishing limits unless it was a collared vessel that had been assessed as a high complexity vessel. While these collared vessels are able to operate further from shore they would:

- not be permitted to proceed beyond restricted coastal limits
- only be able to operate in favourable weather
- be required to remain within 60 nautical miles of a safe haven.

There are also limitation on open vessels (high or low complexity) in relation to lifting appliances, the number people able to be carried and their maximum size.

## Status quo

### **Stability assessment requirements are inconsistent and do not apply to all vessels**

Currently not all vessels are required to have a stability assessment. Where a stability assessment is required it is broadly based on the vessel's size, complexity, and operation. The key aspects of the current regime are set out below.

#### *Intact stability*

A comprehensive stability assessment or GZ assessment is required in the following situations.

- Rigid inflatable boats of 12 metres or more LOA, carrying 12 or more persons, or fitted with decks above the hull that people have access to.
- Decked vessels if:
  - o over 15 metres LOA (12 metres LOA for post-2004 fishing vessels)<sup>13, 14</sup>
  - o a fishing vessel less than 12 metres LOA engaged in fishing operations using towed gear<sup>15</sup>

<sup>13</sup> A sistership is not required to conduct an inclining experiment provided the lightship displacement can be measured within limits that are satisfactory to the surveyor.

<sup>14</sup> For a fishing vessel engaged in trawling, dredging, or similar forms of fishing where heavy gear is towed or purse seining.

<sup>15</sup> A simplified stability assessment.

- carrying more than 50 passengers or more than 50 persons
- carrying cargo, or passengers and cargo, weighing more than 1,000kg
- fitted with a deck crane or carries a mobile deck crane
- a tug boat or vessel engaged dredging
- a passenger vessel operating beyond restricted limits.

A heeling test is required for the following decked vessels.

- A passenger vessel less than 15 metres LOA; carrying less than 50 passengers, and operates within restricted limits.
- A non-passenger vessel carrying 50 or less persons, or carrying a combination of passengers and cargo weighing not more than 1,000 kg, or carrying cargo weighing 1,000 kg or less.

There are limited or no requirements for some vessels.

- For open or partially open passenger and non-passenger vessels:
  - a swamp test is required for vessels that are less than 6 metres LOA
  - no stability assessment is required for vessels 6 metres or more LOA (although Maritime NZ's position statement highly recommends that all open vessels undergo a swamp test assessment (PS-07-18)).
- For fishing vessels:
  - a swamp test is required if non-decked or partially decked
  - no stability assessment is required if decked, less than 12 metres LOA and not involved in a fishing operation that tows gear.

#### *Damage tests*

Damage tests apply to rigid inflatable passenger and non-passenger vessels. The requirements depend on whether the vessel is 12 metres or more LOA, carrying more than 12 people, or fitted with decks above the hull to which people have access.

#### *Damage stability*

Damage stability requirements are specified (but different) for the following classes of vessels.

- Passenger vessels if carrying 50 or more passengers, proceeding beyond coastal limits and is less than 35 metres.
- Passenger vessels if proceeding beyond coastal limits and 35 metres or more in LOA.
- Non-passenger vessels if an offshore supply ship of 24 metres or more LLL.

### What is the problem / rationale for change

#### The current requirements are not fit for purpose

The current stability rules for vessels have notable gaps and inconsistencies, which could impact safety.

- Not all vessels are required to undergo a stability assessment, for example, open passenger and non-passenger vessels 6 metres or more in length have no stability requirements. These vessels serve a variety of functions, such as providing passenger services, both scheduled and unscheduled, or functioning as small workboats.
- The requirements are not proportionate to risks associated with certain vessel types and operations:
  - o in some cases, open vessels are subjected to only a basic swamp test, while towing requirements are absent for vessels other than tugs
  - o in some cases the requirement is too high, for example, all decked passenger vessels between 15 to 24 metres LOA are required to undergo a comprehensive stability assessment regardless of the risks posed by its operation.
- The current requirements do not adequately address the issues with low waterplane area vessels, such as catamarans, with deep hulls which typically have large intact freeboards.

In addition, modern vessels are significantly more complex, and the regulations need to evolve to reflect this. Comprehensive stability assessments offer greater safety benefits than simpler tests like heel or swamp evaluations. With advancements in computer software, performing thorough stability analyses has become more feasible.

The proposed changes also emphasise the unique features of collared vessels. These vessels are specifically designed for rough sea conditions, offering enhanced buoyancy and survivability compared to other open boats. Given these specialised attributes, allowing collared vessels to operate further out was considered appropriate.

By tailoring stability requirements to a vessel's type, operation, and complexity, the proposed changes aim to address safety concerns effectively while accommodating the diverse nature of modern vessels.

### Impact of the proposed change

The impact of the proposed changes on existing vessels is unknown as decisions on how the proposals would apply to existing vessels have not been made. Refer to Part A of this document for further discussion on this point.

Vessels new to New Zealand's fleet would need to meet all proposed new stability requirements. For these vessels the impact of the proposed changes would vary. For some vessels the proposed changes would be either a new requirement, or more extensive assessment, than currently required. For other vessels, the proposals would lower the requirement. Examples of how different types of vessels and operations could be impacted is set out in Table 3 below.

**Table 3: Examples of the impacts of the proposed changes**

The change	An example
<ul style="list-style-type: none"> <li>A vessel would be required to undergo a comprehensive stability assessment. Previously only needed a heel or swamp test.</li> </ul>	<ul style="list-style-type: none"> <li>A decked passenger vessel less than 15 metres LOA, carrying 50 or less passengers, and operating within restricted limits would be required undergo a comprehensive stability assessment if it met the threshold of a high complexity vessel. Previously only required to do a heel test.</li> </ul>
<ul style="list-style-type: none"> <li>A vessel would be required to undergo a heel test and person rescue &amp; recovery test. Previously only needed a swamp test.</li> </ul>	<ul style="list-style-type: none"> <li>A passenger and non-passenger open vessel less than 6 metres LOA.</li> <li>A non-decked or partially decked fishing vessel.</li> </ul>
<ul style="list-style-type: none"> <li>A vessel would require a stability assessment. Previously no stability assessment was required.</li> </ul>	<ul style="list-style-type: none"> <li>An open vessel 6 metres or more LOA. The stability assessment requirements would depend on whether it was categorised as high or low complexity.</li> </ul>
<ul style="list-style-type: none"> <li>A vessel would have lower stability assessment requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Vessels between 15-24 metres LOA may no longer need a comprehensive stability assessment if they did not meet any of the thresholds of a high complexity vessel.</li> </ul>

An estimate of the cost of undertaking the different assessments is set out below. The cost would depend on the availability of documentation about the vessel.<sup>16</sup>

For an open low complexity vessel:

- a swamp test, heel test and person recovery test would cost approximately \$2,500 in survey fees
- where a swamp test is undertaken by calculation<sup>17</sup> rather than practical means, there may be additional costs of approximately \$1,500 as additional measurements and calculations would be required as part of the swamp test assessment.

For a decked low complexity vessel a heel test for a low complexity decked vessel would cost approximately \$2,000 in survey fees.

For a high complexity vessel (open or decked), a comprehensive GZ stability assessment, including an inclining test, would be required. Where a new assessment is required, it is estimated this would cost approximately \$10,000 in survey and naval architecture fees plus an additional \$5,000 to measure the hull and create the lines plan, if no lines plans are available.

<sup>16</sup> These figures are approximates only and exclude GST and do not factor in surveyor travel costs and other related costs.

<sup>17</sup> A practical swamp test may be difficult to do on an existing vessel.

In some cases there could also be an impact on the operation of the vessels. For example, in some cases the proposed stability criteria may result in a reduced cargo carrying capacity, reduced passenger capacity or reduced operating limits (discussed further in Proposal 2).

### Options analysis

Two options were considered.

Option 1: (Status quo). Stability requirements do not apply to all vessels and are not proportionate to risk.

Option 2: (Preferred option). Setting stability requirements based on complexity (high or low) and characteristics (open or decked).

### How does Option 2 compare against the status quo

<i>The changes provide flexible and adaptive regulation:</i>	The proposed changes are based on risk. They would provide an approach that better caters to the increasing diversity of vessels in New Zealand's domestic fleet and the types of activities they undertake.
<i>Rules are clear and easier to understand and apply:</i>	Similar to the status quo, the proposal would determine a vessel's stability requirements based on the attributes of the vessel and its operation. However, it would provide greater clarity by including more specific thresholds to categorise the vessel, including consideration of a vessel's size, operating area, type of operation, minimum freeboard, and ability to shed water and withstand a swamping event.
<i>Maritime safety is maintained or enhanced:</i>	The new requirements would enhance maritime safety by ensuring that a stability assessment would be required for all vessel types and that the requirements would be appropriate for the risks posed by the vessel's configuration and operation.
<i>Changes are practical and economically viable:</i>	The changes are practical and would provide a safety benefit. The full economic impact of this proposal cannot be determined until decisions, discussed in Part A of this document, are made on how these new requirements apply to the existing fleet. However, under the proposal more vessels would be required to undergo new stability requirements, or more extensive stability assessments, that previously required.

**Table 4: Comparing Option 2 against the status quo**

	1. Status Quo	2: Stability requirements for all based on complexity and characteristics of vessel
Provides flexible and adaptive regulation	0	+
Rules that are clear and easier to understand and apply	0	++
Maritime safety is maintained or enhanced	0	++
Changes are practical and economically viable	0	+ to -
<b>Overall assessment</b>	<b>0</b>	<b>+</b>

**Key for qualitative judgements:**

- ++ Much better than doing nothing/the status quo/counterfactual
- + Better than doing nothing/the status quo/counterfactual
- 0 About the same as doing nothing/the status quo/counterfactual
- Worse than doing nothing/the status quo/counterfactual
- Much worse than doing nothing/the status quo/counterfactual

Preferred option
Option 2 is the preferred option. The existing rules do not adequately address the stability risks of all vessels in the fleet.
What are the marginal costs and benefits of the preferred option?
<p>For some vessels that are new to the fleet, there would be additional costs associated with having to undergo a more extensive stability assessment or undertake a stability assessment when previously it would not have been required. These additional costs would be upfront costs at the point the vessel enters the fleet or when a vessel underwent a major alteration, changed its operation or changed its lightship condition over specific threshold.<sup>18</sup></p> <p>As noted above, the full impacts of the proposed changes on existing vessels is unknown as decisions on how the proposals would apply to existing vessels have not been made. Refer to Part A of this document for further discussion on this point.</p>

<sup>18</sup> A change to lightship conditions equal to or greater than 4% lightship displacement, 2% longitudinal centre of gravity (as a percentage of LOA) or 1% vertical centre of gravity.

**Table 5: Marginal costs and benefits of setting stability requirements based on how a vessel is categorised in terms of its complexity (high or low) and characteristics (open or decked)**

Affected groups	Comment	Impact	Evidence Certainty
<b>Additional costs of the preferred option compared to taking no action</b>			
<b>Non-monetised costs</b> Vessel owners and operators and surveyors	Users of the Maritime Rules would need to adjust to the new rules.	Low	Medium
	Greater need for Naval Architects and design approvers due to more comprehensive stability assessments required.	Medium	Medium
<b>Monetised costs</b> Vessel owners and operators	Increased costs associated with additional stability assessment for both high and low complexity vessels.	Medium - High \$2,000 to \$15,000 depending on the stability assessment required.	Medium
<b>Additional benefits of the preferred option compared to taking no action</b>			
Vessel owners and operators	The requirements are proportionate to risk. As a result some vessels may no longer be required to undergo a comprehensive stability assessment.	Medium	Medium

**Assumptions and notes**

Decisions on the application of these rules to existing vessels have not yet been made. Refer to Part A of this document for discussion on the factors that are being considered in making that decision.

**Questions:**

SF 1.1 Do you agree that the different types of stability assessments applied to a vessel, depending on its complexity and characteristics of the vessel, are appropriate?

*[Answers: Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why /why not?

SF 1.2 Do you agree with the restrictions and limitations placed on open vessels?

*[Answers: Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why /why not?

SF 1.3 Do you agree with allowing collared vessels, which have met the assessment requirements of a high complexity vessel, to proceed beyond restricted limits or inshore fishing limits if certain caveats have been met?

*[Answers: Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why/why not?

SF 1.4 Do you agree with the estimated impacts (including costs) of the proposed changes?

*[Answers: Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why/why not?

## Proposal 2: Stability test and documentation requirements

### What we are proposing

Proposed changes to the specific assessment tests, input parameters used in the tests, and the information to be recorded following a stability assessment. The main changes being proposed are set out below.

#### Assessment tests - low complexity vessels

##### *Swamp Test*

It is proposed that the swamp test requirements would be enhanced in the following ways:

- additional criteria for allowable heel—it is proposed that trim and heel angle must not exceed 12 degrees
- more explicit requirements for reserve buoyancy— is proposed that, depending on whether it is by practical test or analysis, two thirds of the perimeter is out of the water when swamped or 10% surplus buoyancy.

It is also proposed that the rules would explicitly allow the swamp assessment to be determined by either computational modelling or calculation.

##### *Person rescue and recovery test*

It is proposed that all low complexity open vessels be required to undergo a person rescue and recovery test if certified for three or more persons on board.

##### *Heel test*

It is proposed that the allowable heel angle (combined heel and trim angles) would be reduced from 15 to 12 degrees and be applied to all low complexity vessels, including open vessels.

#### Assessment tests - high complexity vessels

##### *Comprehensive stability assessment*

It is proposed that the comprehensive vessel assessment requirements would primarily stay the same as the current requirements, with some exceptions including:

- additional heeling criteria covering crowding, wind and turning heeling moments for all vessels
- the option of using an air-inclining experiment or a weight study instead of a standard inclining experiment in some limited situations
- removing the option for decked fishing vessels, less than 12 metres LOA that are engaged in operations using towed gear, to be able to use an assessment of a vessel's metacentric height (GM) as a measure of its stability.<sup>19</sup>

<sup>19</sup> This relates to the requirement specified in 40D.34(7)(b) of the current rules.

### **Other assessment requirements**

There are a range of other assessment requirements proposed for vessels with specific activities or arrangements, including lifting devices, fishing, and towing. These are set out in draft Rule Part 3B Subpart C, Section 8 of the proposed rules. These requirements would be either in addition to, or instead of, the standard stability tests described above.

#### *Lifting appliances*

The following additional requirements are proposed.

- Lifting requirements would apply to lifting activities on any vessel for any purpose using fixed or mobile deck crane, derrick, gantry or other lifting device<sup>20</sup> if certain conditions are met.
- Open vessels would not be permitted to have lifting appliances fitted that have more than a 300kg safe working load or 1% lightship<sup>21</sup>, whichever is greater. However, they are able to be fitted with lifting gear if under this threshold.
- Low complexity open vessels fitted with lifting gear below the threshold noted above would not be able to have a heel induced at worst possible load scenario exceeding 7 degrees or have a minimum heeled freeboard less than 250 mm anywhere around the periphery of the vessel when lifting. A high complexity vessel may exceed these limits if they have undertaken a GZ assessment for lifting.

#### *Fishing*

Additional fishing specific criteria are proposed to be included as part of the comprehensive stability assessment. For example, the effect of wet nets or other gear on the deck.

#### *Towing*

Additional requirements are proposed for all vessels engaged in towing by means of a tow rope where the towed vessel is likely to exceed twice the displacement of the towed ship. The requirements would make a distinction between towing involving a towed vessel that is twice its displacement and one that is twice its length.

#### *Other*

The following requirements are also proposed.

- Additional specific requirements for dredgers and split hoppers based on updated requirements in the current rules.
- Separate rules for houseboats, fully foil-borne vessels, hire and drive vessels, high speed craft and inflatable boats also based on the current rules or approach.

<sup>20</sup> The lifting requirements may apply to person retrieval systems, the ship's own anchor handling equipment, davits for tender or survival craft if the surveyor determines there is a detrimental effect on stability.

<sup>21</sup> The 300kg threshold is taken from class exemption EXA 702 (Maritime Transport (Class Exemption — Lifting Appliances and Loose Cargo Gear) Notice 2024). The 1% threshold aligns with the UK Maritime and Coastguard Agency Workboat Code., ed. 3

### Input parameters

There are some proposed changes to the input parameters for these tests<sup>22</sup>, including:

- the standard weight of persons be increased from 75 kg to 80 kg<sup>23</sup>
- the maximum passenger distribution of four persons per square metre to be applied to all vessels not just passenger vessels.

### Stability information

It is proposed that a surveyor would be required to document the outcome of all stability assessments and not just comprehensive stability assessments. The information recorded would need to be sufficiently clear and accurate to enable a ship's compliance with the relevant stability criteria to be reliably determined.

### Status quo

The description of the status quo below only highlights the main elements where a change to the status quo is proposed.

#### Assessment tests - low complexity vessels

The current requirements:

- a swamp test has no specific requirements around the angle of heel—the measure of a successful swamp test is that the vessel has sufficient buoyancy so the boat will stay afloat and in good trim, without listing
- a person rescue and recovery test is only required for rigid inflatable boats
- a heel test has an allowable heel of 15 degrees.

#### Assessment tests - high complexity vessels

The current requirements for a comprehensive stability assessment:

- only requires multiple heeling criteria for passenger vessels carrying more than 50 passengers
- allows decked fishing vessels less than 12 metres LOA, engaged operations using towed gear, to use a simplified stability assessment (a vessel's metacentric height (GM)) based on its condition on departure for the fishing grounds.<sup>24</sup>

#### Other requirements

The current requirements:

- lifting appliances are only allowed on decked vessels<sup>25</sup>

<sup>22</sup> Refer Appendix 1 of the Part 3B Maritime Transport Instrument.

<sup>23</sup> Based on the standard weight set in the National Standards for Commercial Vessels (NSCV)

<sup>24</sup> This relates to the requirement specified in 40D.34(7)(b).

<sup>25</sup> Refer to class exemption EXA 702 referenced in footnote 18.

- the comprehensive stability for fishing vessels include a wide range of fishing related scenarios are assessed, including the impact of departing port with a full complement of ice, fishing gear and catch, or departing the fishing grounds with full catch
- the towing requirements are specific for tug boats.

#### **Input parameters**

The current requirements set the standard weight of persons at 75 kg and do not consider maximum passenger distribution except for passenger vessels.

#### **Stability information**

The current rules only require a detailed record of the stability assessment (i.e. a stability booklet) when a vessel has undergone a comprehensive stability assessment.

### **What is the problem / rationale for change**

#### **Swamp, heel and person rescue and recovery tests**

Some elements of swamp, heel and person rescue and recovery tests are not fit for purpose. The proposed changes to the requirements for these tests are based on the following recommendations and anecdotal information from industry and some limited modelling analysis.

- Industry feedback has indicated that the current open boat swamp test requirements are inadequate and do not reflect a real world situation where the swamped vessel can be easily disturbed by small waves and capsize.
- The stability investigation report,<sup>26</sup> and a peer review panel, considered a heel test (i.e. person crowding) was necessary for all low complexity vessels, including open vessels, to mitigate the risk of down flooding and/or capsizing.
- In depth modelling of possible scenarios and anecdotal evidence from surveyors have indicated that the current maximum allowable heel of 15 degrees is not appropriate and poses risk to safety. Based on that information and feedback from a peer review panel, the proposal sets that allowable heel angle (combined heel and trim) at 12 degrees.

The rationale for extending the person rescue and recovery test to all open vessels is that all open vessels are vulnerable to swamping or capsizing if the gunwhales are submerged during a person rescue and recovery scenario. The same risk of swamping does not occur for a decked vessel.

#### **Comprehensive stability test**

The comprehensive stability assessment criteria continues to largely align with IMO 2008 Intact Stability Code. The inclusion of alternatives to the standard inclining experiment, that is, allowing an air-inclining or weight study, reflects the practicalities and accuracy of a standard inclining test in some situations.

The proposal removes the ability for decked fishing vessels, which are less than 12 metres LOA and engaged in operations using towed gear, to use a simplified stability assessment (a vessel's

<sup>26</sup> Heatley, N., 2020. Stability Investigation Report for Maritime New Zealand's 40 Series Project.

metacentric height (GM)) as a measure of its stability. The rationale for removing this option is set out below.

- A GM assessment has limitations as it only considers a vessel's initial stability and does not take into account the entire range of stability, especially at larger angles of heel.
- A GM assessment based on the fishing vessel's departure condition would not generally represent the most critical stability condition for these types of vessels. For example, the stability investigation report provided an example in which a vessel had an acceptable GM (calculated at 1.06 which is well in excess of the requirement of 0.75) but its GZ in the arrival condition was non-compliant and a concern from a safety point of view.

However, the stability investigation report also noted that there are different perspectives on the value of the GM calculation and that some surveyors considered that the simple GM analysis is better than having no stability information.

Removing the ability to use a GM assessment reflects that the rules are setting requirements for vessels entering New Zealand. It is therefore important that they set requirements that provide a robust assessment of a vessel's stability upon entering the fleet. As noted earlier in this document, there is still ongoing work to determine how the proposed new rules would apply to existing vessels. This work needs to determine the right balance between the costs and practicalities of retrospectively applying the new rules to existing vessels (Refer to Part A of this document).

### **Stability information**

For a variety of reasons an operator may not hold stability information about a vessel, including that it was not required or has been lost over time. Recording and retaining the outcome of a vessel's stability assessment is important as it provides essential data to help prevent capsizing and other stability-related accidents. This information allows operators to understand how different factors, such as cargo weight and sea conditions, affect the vessel's stability.

### **Impact of the proposed change**

Proposal 1 describes the potential impacts of vessels being required to undergo additional stability assessments, for example, proposed new requirements for open vessels to do a heel test. This section does not discuss those impacts further.

Proposal 2 considers two types of impacts:

- the impacts of changes to the tests themselves or the documentation on the survey process, including whether additional time is required to undertake the survey
- the impacts of the changes on the operation of the vessel.

### **Impacts on the survey process**

For high complexity vessels that are required to undertake a comprehensive stability assessment there would generally be minimal impacts on the survey process as the method and criteria for carrying this type of assessment is essentially the same.

The exception would be those fishing vessels currently able to use a GM assessment as it is proposed that these vessels would be required to undertake a GZ analysis. This would have substantial impact on the survey process. A GZ analysis demands more time, data, and computational effort compared to a GM analysis, including information about a vessel's hull form, displacement, and the distribution of weights. It is estimated that a GM assessment would be approximately half the cost (approximately \$7,000) of a full GZ stability analysis. As noted in Proposal 1, a full comprehensive stability analysis is estimated to be up to \$15,000 if no vessel documentation is available.

For low complexity vessels that would be required to undergo a swamp, heel and person rescue and recovery test, there would be minimal or no impact of the changes to these tests on the survey process as the changed criteria can be factored into the existing assessments. There would be some additional surveyor time required to complete stability documentation, not previously required, but this should be reasonably minimal as the proposal includes templates to streamline this process.

For those vessels wanting to tow or undertake lifting activities there would be both costs and benefits of the proposals. For both activities it is proposed that an open vessel would be able to undertake these activities, within specific bounds. However, there are additional costs if a towing or lifting assessment is required, this is estimated to cost approximately \$2,500 in naval architect and design approval fees for either assessment.<sup>27</sup>

#### **Impacts on the operation of the vessel**

Changes to aspects of the assessment criteria for the swamp and heel tests may impact the operation of the vessel as it may reduce the number of passengers or quantity of cargo that a vessel is able to carry. For example, some vessels may need to reduce the number of passengers carried to stay within the new heeling limits if they are already operating close to their operational stability limits.

#### **Options analysis**

Two options were considered.

Option 1: (Status quo). Continue with the existing stability assessment tests and stability documentation requirements.

Option 2: (Preferred approach). Changes to the stability assessment tests and documentation requirements to ensure a vessel's stability is more effectively assessed and documented.

<sup>27</sup> There are likely to be additional costs associated with the lifting assessment for low complexity vessels on the assumption that they would not have any GZ stability data already available and are unlikely to have lines plans of the vessel. However, decked vessels undertaking lifting activities would already be required to meet these requirements.

### How does Option 2 compare against the status quo

The following criteria have been used to assess the alternative option.

*The changes provide flexible and adaptive regulation:* This proposal would provide operators with different options for complying with the stability requirements based on the practicality of undertaking these tests. For example an air-inclining test could be used instead of a standard inclining test, or a weight study could be used if an inclining test is unlikely to be accurate.

*Rules are clear and easier to understand and apply:* The proposal would provide clear and appropriate methods of stability assessment for all vessels based on whether they are high or low complexity and either open or decked.

*Maritime safety is maintained or enhanced:* Changes to the stability assessment tests would enhance maritime safety as the additional requirements have been included to address potential risk.

*Changes are practical and economically viable:* Changes are practical and provide a safety benefit. In most cases the costs would be minimal as the changes can be incorporated into the normal survey process.

However, there would be substantial costs for some fishing vessels that would no longer be able to use the simplified GM assessment to meet the stability requirements.

In addition, in some situations the changes to the parameter in the test may impact the operator by limiting the number of people or volume of cargo that can be carried.

**Table 6: Comparing Option 2 against the status quo.**

	1. Status Quo	2: Changes to stability test and documentation
Provides flexible and adaptive regulation	0	++
Rules that are clear and easier to understand and apply	0	+
Maritime safety is maintained or enhanced	0	++
Changes are practical and economically viable	0	++ (passenger and non-passenger vessel)  ++ to - (fishing vessels)
<b>Overall assessment</b>	<b>0</b>	<b>+</b>

**Key for qualitative judgements:**

- ++ Much better than doing nothing/the status quo/counterfactual
- + Better than doing nothing/the status quo/counterfactual
- 0 About the same as doing nothing/the status quo/counterfactual
- Worse than doing nothing/the status quo/counterfactual
- Much worse than doing nothing/the status quo/counterfactual

<b>Preferred option</b>
The preferred option is Option 2. It introduces changes to the stability assessment tests, and supporting documentation, which ensures a vessel’s stability is more effectively assessed and documented.
<b>What are the marginal costs and benefits of the preferred option?</b>
For vessels that are new to the fleet, there would generally be minimal additional costs associated with the proposed changes to the stability tests and document requirements. The exceptions would be: <ul style="list-style-type: none"> <li>- decked fishing vessels that are less than 12 metres LOA and using towed gear. These vessels would be required to undergo a more extensive comprehensive stability assessment</li> <li>- for vessels that are already operating close to their operational stability limits. The changes to the thresholds for the different tests may impact the number of people or quantity of cargo that can be carried.</li> </ul>

In addition, there would be benefits for open vessels as it is proposed that the rules would enable open vessels to under both towing and lifting activities, within specific bounds.

As noted above, the impact of the proposed changes on existing vessels is unknown as decisions on how the proposals would apply to existing vessels have not been made. Refer to Part A of this document for further discussion on this point.

**Table 7: Marginal costs and benefits of changes to the stability test and documentation requirements**

Affected groups	Comment	Impact	Evidence Certainty
<b>Additional costs of the preferred option compared to taking no action</b>			
<b>Non-monetised costs</b> Vessel owners and operators and surveyors	Users of the Maritime Rules would need to adjust to the new rules.	Low	Medium
<b>Monetised costs</b>	Changes to aspects of the stability tests and required documentation.	<p>Low – High</p> <p>Low – for most the changes would be able to be factored into the existing survey processes with little or minimal additional survey or operational costs.</p> <p>High – for fishing vessels unable to use the simplified GM assessment. A GM assessment is approximately half the cost (\$7,000) of a GZ analysis (\$15,000).</p> <p>Medium – for vessels that meet the threshold for requiring a towing or lifting assessment (approximately \$2,500).</p>	Medium

**Additional benefits of the preferred option compared to taking no action**

Vessel owners and operators	Increased safety and clarity.	Medium	Medium
	Open vessels would be able to undertake towing and lifting activities, within specific bounds.	Medium	Medium

**Assumptions**

Decisions on the application of these rules to existing vessels have not yet been made. Refer to Part A of this document for discussion on the factors that are being considered in making that decision.

**Questions:**

SF 2.1 Do you agree with the proposed changes to the stability tests and documentation requirements?

*[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why / Why not?

SF 2.2 Do you agree with the estimated impacts (including costs) of the proposed changes?

*[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why / Why not?

### Proposal 3: Assigning and marking minimum freeboard

<b>What we are proposing</b>
<p>Vessels 24 metres or more in LLL would continue to be required to comply with the load line requirements set out in Rule Part 47 of the current rules.<sup>28</sup></p> <p>It is proposed that the freeboard requirements, set out below, apply to all vessels less than 24 metres LLL. The freeboard requirements for these vessels would be based on whether they are categorised as a high or low complexity vessel.</p> <p>For high complexity vessels, the new rules would provide some flexibility for determining a vessel's assigned freeboard. It is proposed that the minimum freeboard would be assigned in accordance with the greater of:</p> <ul style="list-style-type: none"> <li>- that derived from the comprehensive stability assessment, or the scantling draught</li> <li>- a freeboard to the deck edge or gunwale of at least 250 millimetres and a reserve of buoyancy greater than 10 percent below the freeboard deck or gunwale</li> <li>- for a collared vessel, a freeboard to the upper surface of the buoyancy tubes of at least 300 millimetres, or half the tube diameter if less, and 250 millimetres at the lowest part of the transom.</li> </ul> <p>High complexity vessels would also be required to have an assigned freeboard mark on the side of the vessel or otherwise a prominently displayed placard must depict the assigned freeboard.</p> <p>For low complexity vessels the freeboard would continue to be based on a prescribed tabulated freeboard as they do not have a comprehensive stability assessment from which to determine an alternative freeboard.</p> <p>In addition to the specific requirements, it is proposed that there would be a general requirement that the freeboard and bow height of any ship is sufficient to prevent the excessive shipping of water, taking into account: the type of vessel; seasonal weather conditions; sea states in which the vessel operates; and the operating purpose.</p>
<b>Status quo</b>
<p>Under the current rules, vessels 24 metres or more in LLL, or vessels less than 24 metres LLL that carry any cargo, are required to comply with the current load line requirements set out in Rule Part 47. This includes having a load line assigned and marked on the vessel.</p> <p>For vessels that are not required to meet the load line requirements above, the requirements depend on whether the vessels is a passenger and non-passenger vessel, or a fishing vessel.</p>

<sup>28</sup> As part of the 40 series reform project, Rule Part 47 would be included in a new rule entitled Part 2B: Maritime (Design, Construction and Equipment – Load Line) Rules that will be consulted as a separate part of this project.

For a passenger and non-passenger vessels the requirements are:

- the assigned freeboard is generally a set of prescriptive freeboard (tabulated) requirements for all vessels
- the freeboard is not required to be marked.

For fishing vessels, the assigned freeboard is a prescriptive requirement for non-decked and partially decked vessels, and vessels fitted with a cockpit. If under the current rules a vessel is required to undergo a comprehensive stability assessment the minimum freeboard is not prescriptive. In these situations, the freeboard must be such that the stability criteria are met and the scantling draught is not exceeded. If 12 metres or more LOA the freeboard must be marked.

### **The problem / rationale for change**

Prescriptive freeboard requirements do not allow for innovation or flexibility for designers or operators. In addition, the current load line requirements under Rule Part 47 are inflexible for vessels less than 24 metres and can be difficult and onerous to apply to smaller vessels.

Providing flexibility around the minimum freeboard requirements, in combination with setting baseline minimum freeboard and reserve buoyancy, allows for innovation while ensuring adequate safety margins in all cases.

Requiring high complexity vessels to have an assigned freeboard mark or visible placard acknowledges that the operations of high complexity vessels often vary during and between voyages. For example, passenger numbers or cargo volume might change, or the vessel may initiate fishing or towing activities.

### **Impact of the proposed change**

For vessels requiring to have their freeboard assessed, the proposed changes would simplify the rules and make assigning freeboard to high complexity vessels more appropriate, flexible and risk based.

High complexity vessels would be required to have their freeboard marked or a visual placard. This would be an additional requirement for the following types of vessels if they met the threshold of a high complexity vessel:

- passenger or non-passenger vessels less than 24 metres in LLL that do not carry cargo
- fishing vessels less than 12 metres LOA that are not using towed gear.

The costs of applying the freeboard mark or developing a visual placard are estimated to be approximately to be \$1,500 to \$2,500.

However, there would be significant cost savings for new and existing ships that are less than 24 metres LLL and carry cargo that is less than 8 percent of the vessels lightship displacement (the threshold for a vessel to be categorised as high complexity). These vessels would no longer need to comply with Part 47 Section 2 and incur the ongoing costs associated with having to carry out specific load line surveys and associated certification.

## Options analysis

Two options were considered.

Option 1: (Status quo). Freeboard remains prescriptive with limited requirements for freeboard to be marked. Part 47 Section 2 load line requirements would continue for vessels less than 24 metres LLL carrying any cargo.

Option 2: (Preferred approach). Risk based and flexible approach for setting freeboard requirements, including removal of Part 47 Section 2 Load Line requirements for vessels less than 24m.

### How does Option 2 compare against the status quo

The following criteria have been used to assess the alternative option.

*The changes provide flexible and adaptive regulation:* This proposal would provide operators of high complexity ships greater flexibility in assigning appropriate freeboard. Allowing for greater innovation or flexibility for designers or operators.

*Rules are clear and easier to understand and apply:* The proposal would provide clear and appropriate methods of assigning freeboard.

*Maritime safety is maintained or enhanced:* The requirement for high complexity vessels to have a freeboard mark or visual placard would enhance maritime safety as it would provide a readily accessible indication of the loading status or capacity of the vessel.

*Changes are practical and economically viable:* Changes are practical and would provide a safety benefit. The economic implications of this proposal would vary across the fleet. For those vessels that no longer need to meet the Rule Part 47 load line requirements there would be significant and ongoing financial benefits.

For high complexity vessels that are not already required to have a freeboard or load line marked, there would be a one off cost associated with applying a freeboard mark or developing a visual placard.

**Table 8: Comparing Option 2 against the status quo**

	1. Status Quo	2: Revised approach for setting and marking freeboard
Provides flexible and adaptive regulation	0	++
Rules that are clear and easier to understand and apply	0	++
Maritime safety is maintained or enhanced	0	+
Changes are practical and economically viable	0	++ (vessels less than 24m LLL carrying cargo)
		0 (fishing vessels - majority)
		- (High complexity vessels not currently required to meet load line requirements or fishing vessels not covered above)
<b>Overall assessment</b>	<b>0</b>	<b>+</b>

**Key for qualitative judgements:**

- ++ Much better than doing nothing/the status quo/counterfactual
- + Better than doing nothing/the status quo/counterfactual
- 0 About the same as doing nothing/the status quo/counterfactual
- Worse than doing nothing/the status quo/counterfactual
- Much worse than doing nothing/the status quo/counterfactual

**Preferred option**

Option 2: is preferred as it would provide a risk based flexible approach for setting freeboard requirements while at the same time setting minimum baselines for safety. It would also remove the load line requirements for vessels less than 24 metres LLL which have ongoing costs can be difficult to apply to smaller vessels.

**What are the marginal costs and benefits of the preferred option?**

For vessels that are new to the fleet, there would be costs to mark the freeboard or produce a placard. However there would be ongoing cost savings for new and existing ships that are less than 24 metres LLL that carry any cargo. These vessels would no longer need to comply with Rule Part 47 Section 2 of the current rules and incur the ongoing costs of having to carry out specific load line surveys and associated certification costs.

As noted above, the impact of the proposed changes on existing vessels is unknown as decisions on how the proposals would apply to existing vessels have not been made. Refer to Part A of this document for further discussion on this point.

Table 9: Marginal costs and benefits of assigning minimum freeboard and marking

Affected groups	Comment	Impact	Evidence Certainty
<b>Additional costs of the preferred option compared to taking no action</b>			
<b>Non-monetised costs</b> Vessel owners and operators and surveyors	Users of Maritime Rules would need to become familiar with the new rules. Some existing vessels would need to apply load line mark.	Medium	Medium
<b>Monetised costs</b>	Requirement to mark vessel or have visual placard, if required.	\$1,500 to \$2,500 per vessel.	High
<b>Additional benefits of the preferred option compared to taking no action</b>			
Vessel owners and operators	Vessels less than 24 metres LLL that carry any cargo would no longer incur the costs associated with load line surveys and certification.	\$500 to \$1,000 for survey fees <sup>29</sup> of at least every five years.	High

**Assumptions and Notes**

Decisions on the application of these rules to existing vessels have not yet been made. Refer to Part A of this document for discussion on the factors that are being considered in making that decision.

<sup>29</sup> This does not include the travel and related costs to undertake this work which could be several thousands of dollars.

## Questions:

SF 3.1 Do you agree with the proposed changes to assigning freeboard and requiring high complexity vessels to have a freeboard mark or visual placard?

*[Answers: Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why/why not?

SF 3.2 Do you agree with the estimated impacts (including costs) of the proposed changes?

*[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]*

Why/why not?

## How to have your say

The deadline for providing comment on these proposals is **5pm on Friday 11 July 2025**.

55. This document is part of a package of documents on the proposed changes to the design, construction, and equipment rules. Information on this consultation will be available on Maritime NZ's website and through Maritime NZ's SeaChange newsletter.

56. Subject to interest, Maritime NZ will hold online information sessions on the proposals during the weeks of **3 to 6 June and 23 to 27 June**. Please contact us at the email address provided below if you would like to attend a session or if you would like us to contact you to discuss any of the proposals.

57. We welcome any feedback you would like to provide. Submissions can be made by completing the submission form on our website ([https:// www.maritimenz.govt.nz/public/consultation/DCE-40-series-package-2/](https://www.maritimenz.govt.nz/public/consultation/DCE-40-series-package-2/)), or in any other written form; and:

- emailed to us at [40.series@maritimenz.govt.nz](mailto:40.series@maritimenz.govt.nz); or
- posted to the Regulatory Reform Projects Team, Maritime NZ, PO Box 25620, Wellington 6140.

58. This document includes questions to help you focus your feedback. Answering the questions is optional.

Submissions are public information

59. Please let us know if your comments are commercially sensitive or if for some other reason you consider they should not be disclosed. If your submission is subject to an Official Information Act (OIA) request, Maritime NZ will consider your confidentiality request in accordance with the grounds for withholding information set out in the OIA.

60. In addition, if you are an individual (that is your comments are made personally and not on behalf of a company or an organisation), please let us know if you have reasons that your identity should not be disclosed.

61. We will acknowledge all submissions that we receive.

## Questions

62. The following questions have been included to help focus your feedback. Answering the questions is optional. Any and all feedback is welcome.

### Part A: The application of the proposed rules

- SF Part A.1 How should the proposed new rules apply to existing vessels?
- SF Part A.2 Do you agree that any or all of the additional considerations, set out in Figure 1, should be factored into the decision on how to apply the proposals to existing vessels? Are there other factors that should be considered?
- SF Part A.3 If you do not currently have stability information available, or do not have a freeboard mark or placard, how do you manage any potential stability issues that could arise during the operation of your vessel?
- SF Part A.4 How should the proposed new rules apply to a vessel that is new to the fleet?
- SF Part A.5 What type of stability information would a vessel that is new to the fleet likely to have?

### Part B: The proposed new stability, drainage, freeboard and subdivision rules

#### A new approach for categorising vessels based on their complexity and characteristics

- SF Part B.1 Do you agree with using the new approach, of categorising a vessel according to its complexity (high or low) and characteristics (open or decked), for determining a vessel's stability, drainage, freeboard and subdivision requirements?
- [Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]
- Why/why not?
- SF Part B.2 Do you agree with the thresholds for determining whether a vessel is high complexity? Are the thresholds set at the right level? Are there additional factors that could be considered?
- SF Part B.3 Do you agree with consolidating the terms used to categorise a vessel's configuration and only using the terms open and decked? Do you agree with how the distinction between an open and decked vessel is determined?
- [Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]
- Why/why not?

**Proposal 1: Setting stability requirements for all vessels**

SF 1.1 Do you agree that the different types of stability assessments applied a vessel, depending on its complexity and characteristics of the vessel, are appropriate?

[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]

Why/why not?

SF 1.2 Do you agree with the restrictions and limitations placed on open vessels?

[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]

Why/why not?

SF 1.3 Do you agree with allowing collared vessels, which have met the assessment requirements of a high complexity vessel, to proceed beyond restricted limits or inshore fishing limits if certain caveats have been met?

[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]

Why/why not?

SF 1.4 Do you agree with the estimated impacts (including costs) of the proposed changes?

[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]

Why/why not?

**Proposal 2: Stability test and documentation requirements**

SF 2.1 Do you agree with the proposed changes to the stability tests and documentation requirements?

[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]

Why/why not?

SF 2.2 Do you agree with the estimated impacts (including costs) of the proposed changes?

[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]

Why/why not?

**Proposal 3: Assigning and marking freeboard**

SF 3.1. Do you agree with the proposed changes to assigning freeboard and requiring high complexity vessels to have a freeboard mark or visual placard?

[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]

Why/why not?

SF 3.2. Do you agree with the estimated impacts (including costs) of the proposed changes?

[Answers: Strongly agree; Agree; Neutral; Disagree; Strongly Disagree; No comment]

Why/why not?

## Appendix 1: Documents used to inform the proposals

- External report for MNZ - Review of Rule 40C for Marine Farming Vessels by Able Ships, June 2010–
- Stability Investigation Report for Maritime New Zealand’s 40 Series Reform Project by Nina Heatley – June 2020.
- Barges for Maritime New Zealand’s 40 Series Reform Project by Nina Heatley – September 2020.
- Load line – An Investigation into the use of load lines in NZ by Harry Stronach of Able Ships Ltd – December 2020.
- Easy rider TAIC report MI 12-201
- Henerata TAIC report MO-2019-204
- After Hours work boat MNZ Accident Investigation Report
- Victory II MNZ Accident Investigation Report
- MNZ position statement 07-18 Swamp calculations or swamp tests for open or partially decked boats
- MNZ ITN -01-20 Hull configurations, Freeboard and Stability Requirements for Small Boats
- MNZ ITN -08-18 Rule Clarification- vessels coming from Australia and in Class
- NSCV Part C6A, C6B and C6C as well as relevant sections of draft Part C2
- MCA Workboat Code Edition 2
- IMO 2008 IS code
- IMO HSC Code
- MNZ ITN-03-19 Safe Havens
- MNZ 40 Series Rules and advisory circulars
- MNZ guide to Fishing Vessel Stability
- MNZ barge stability guidelines ISBN 0-478-18830-0
- MNZ Guide for surveyors, operators and yacht brokers on survey and certification of CE-certified recreational craft for commercial service in New Zealand
- NZ guidance document ‘When is it ok to tow another vessel?’
- MNZ exemption GE-13-17 Lifting Appliances <300kg
- MNZ exemption GE-12-17 Angle of maximum GZ for fishing ships
- NSCV C2A, C6A, C6B, C6C
- Peer review panel email correspondence

## Appendix 2: Determining a vessel as open or decked - extract from the draft maritime transport instrument

### Clause 2.3: Ships are open or decked

#### *Ship's characteristics*

- (1) A surveyor must categorise a ship as open or decked in accordance with subclauses (2) to (5) and the following characteristics:
  - (a) the residual stability in accordance with Appendix 3 [of the MTI<sup>30</sup>]:
  - (b) the drainage and freeing arrangements in accordance with Section 9 [of the MTI]:
  - (c) the minimum freeboard to deck in accordance with Section 10 [of the MTI].

#### *Decked ship*

- (2) If a ship complies with subclause (1)(a), (b), and (c), it must be categorised as a decked ship and assessed in accordance with the requirements for a low complexity decked ship in Section 3 [of the rule] or the requirements for a high complexity decked ship in Section 4 [of the rule], as appropriate.

#### *Open ship*

- (3) If a ship does not comply with subclause (1)(a), (b), or (c), it must be categorised as a low complexity open ship and assessed in accordance with Section 3 and the associated limitations for a low complexity open ship applied.
- (4) If a ship complies with subclause (1)(a) and (b), but not (c), it must be categorised as a high complexity open ship and assessed in accordance with Section 4 [of the rule<sup>31</sup>] and the associated limitations for a high complexity open ship applied.
- (5) Despite subclauses (3) and (4), if an open ship is categorised as a high complexity ship according to C2.2 [of the rule], it must comply with subclause (1)(a) and (b) and be assessed in accordance with Section 4 [of the rule].

<sup>30</sup> Draft Maritime Transport (Stability, Drainage, Freeboard, and Subdivision) Instrument

<sup>31</sup> Draft Part 3B: Maritime (Design, Construction, and Equipment – Stability, Drainage, Freeboard, and Subdivision) Rules

## Appendix 3: ‘Snapshot’ of the proposed Stability, Drainage, Freeboard, and Subdivision changes

Main changes	What would change	Rule reference
<p><b>Application</b></p>	<p><b>For vessels already in the fleet</b> – decisions on how the proposed changes would apply to existing vessels have not been determined. Feedback is sought on how to balance a vessel’s safety with the cost and practicality of requiring some vessels to meet the new requirements. This is discussed in Part A of this document.</p> <p><b>For vessels new to the fleet</b> – the new rules would apply to all vessels that enter New Zealand’s fleet.</p>	
<p><b>Categorising a vessel based on its complexity and characteristics</b></p>	<p>Vessels would be categorised as high or low complexity <b>and</b> either open or decked. How it is categorised would generally determine its stability, drainage, freeboard, and subdivision requirements.</p> <p><b>High or low complexity</b></p> <ul style="list-style-type: none"> <li>- A High complexity vessel has one or more of the following features: 24m or more LLL; carries more than 50 persons, or more than 12 persons if it is an open vessel; operates beyond restricted limits or inshore fishing limits; carries cargo (other than catch) weighing more than 8% of lightship displacement; as part of its standard operation tows another vessel that is greater than twice its length; has a lifting appliance where the safe working load exceeds 1% of lightship displacement, or 300 kg, whichever is greater; is a fishing ship or an open ship of 12m or more in LOA; is a fishing vessel that engages in trawling, dredging, or other activities where heavy gear is towed, or is engaged in purse seining.</li> <li>- A low complexity vessel is not a high complexity vessel.</li> </ul> <p><b>Open or decked.</b> A vessel would be categorised as <u>either</u> open or decked depending on, as applicable, its residual stability with recesses swamped, the ability of the ship to shed water from decks or drain water from recesses, and the minimum freeboard of the ship to the deck.</p>	<p>Rules C2.2, C2.3 and MTI Section</p>

Part 3B: Stability, Drainage, Freeboard and Subdivision: Proposal Summary

Main changes	What would change		Rule reference	
<p><b>Overview of stability, drainage, freeboard and subdivision requirements</b></p>		<p><b>Open ship</b></p>	<p><b>Decked ship</b></p>	<p>Rules C1.1; Rules Subpart C, Sections 3, 4, 5, 6, 9, 10, 11 &amp; 12. MTI Sections 3, 4, 5, 6, 9, 10, 11 &amp; 12.</p>
	<p><b>Low complexity</b></p>	<p><b>Tests:</b> Would require a swamp test; heel test; person rescue and recovery test; and damage test (for a vessel with inflatable collars or air chambers). <b>General:</b> Would need to meet general requirements for damage stability; and meet minimum assigned freeboard.</p>	<p><b>Tests:</b> Would require a heel test; and damage test (applicable to inflatable collars and air chambers). <b>General:</b> Would need to meet general requirements for damage stability; comply with drainage requirements; have minimum freeboard assigned; and comply with subdivision requirements if 12m or more LOA.</p>	
<p><b>A vessel's stability must be assessed if certain thresholds are met</b></p>	<p>A vessel's stability would need to be assessed if a major alteration or a major change to a vessel's operation or any other change causes a vessel's lightship condition to differ, either individually or cumulatively, by equal to or greater than the following percentages:</p> <ul style="list-style-type: none"> <li>• 4% lightship displacement</li> <li>• 2% LCG (as a percentage of LOA)</li> <li>• 1% VCG.</li> </ul>		<p>Rule C1.3</p>	

Part 3B: Stability, Drainage, Freeboard and Subdivision: Proposal Summary

Main changes	What would change	Rule reference
<b>Stability information</b>	<ul style="list-style-type: none"> <li>• A low complexity vessel would require a stability compliance report and a stability statement.</li> <li>• A high complexity vessel would require a stability booklet.</li> </ul>	Rules C7.2 & C7.3
<b>Freeboard - assigning and marking minimum freeboard</b>	<ul style="list-style-type: none"> <li>• Low complexity vessel: Tables in MTI specify minimum tabulated freeboard based on vessel length and whether it is open or deckled.</li> <li>• High complexity vessel (less than 24m LLL): Minimum freeboard would be assigned primarily based on scantling draught or stability assessment. Freeboard marking or placard would be required for all high complexity vessels.</li> <li>• Vessels less than 24m load line length that carry cargo would no longer have to meet the load line requirements under the current Rule Part 47 (load line).</li> </ul>	Rule C10.3 & MTI 10.2 Rule C11.2 & MTI 11.2
<b>Towing assessment</b>	<ul style="list-style-type: none"> <li>• Requirements for vessels that tow by a means of a tow rope (not just tugs).</li> <li>• Requirements depend on size of the vessel being towed. Requirements based on whether the towed vessel is likely to be more than twice displacement of the towing vessel or greater than twice the length of the towing vessel.</li> <li>• No additional requirements if the ship being towed is likely to be less than twice the displacement of the towing vessel.</li> </ul>	Rule C8.4 & MTI 8.4.
<b>Lifting</b>	<ul style="list-style-type: none"> <li>• Open vessels must not be fitted with lifting appliances with safe working loads exceeding 300 kg or 1 percent lightship, whichever is greater.</li> <li>• For low complexity open vessels, maximum 7-degree angle of heel or minimum heeled freeboard of 250 mm around the periphery of the vessel when lifting.</li> </ul>	Rule C2.2, C3.4 C4.4