

14 CONCLUSIONS AND RECOMMENDATIONS

- 1 The Wellington Risk Assessment has identified a total of 78 risks associated with vessel navigation. Risks have been ranked in order of magnitude.
2. The study has determined that risks overall remain within the As Low As Reasonably Practicable (ALARP) area of the risk matrix (Scores 4-7), given the risk criteria set for this risk assessment. However, a problem involving a passenger RoRo at the entrance is at the end of the ALARP range, with an assessed risk score of 6.8. It also scores highly within consequence categories. Given the nature of the entrance, there remains a valid case for attention by the Wellington Harbour Authority (the GWRC Harbourmaster system) and CentrePort. This affects traffic management from Beacon Hill Signal Station; tug capacity and availability and MNZ Search and Rescue response planning.
3. The risk profile at Wellington is dominated by RoRo ferry data. However, contact berthing incidents associated with this trade also appear high on the ranked hazard list. Fendering standards providing protection for RoRo berthing in marginal conditions are candidates for attention. Environmental parameter limitations or pilot advice are also options. Older Jetty structures need to be given attention with respect to remaining structural integrity. A list for Risk Control Options is presented in section 12 and discussed/expanded further in Section 13.
4. The Wellington Harbourmaster System overall was found to be well managed, with availability, training and delivery providing effective movement risk management. It is however operating at minimum resource levels to provide 24-7 coverage. Recommendations have been made for the upgrading of Beacon Hill Signal Station equipment and the training of operators where necessary.

EXECUTIVE SUMMARY

This document reports the findings of a navigational risk assessment for Wellington Harbour in accordance with the requirements of the New Zealand Port and Harbour Marine Safety Code. It is intended to be a comprehensive document allowing stakeholders to understand the risks and reasoning behind risk control recommendations. It can also be used to construct the Harbour Safety Plan as required by the Code and develop the Harbour Safety Management System for the future.

A total of 78 navigational hazards were identified at overview level, using; the domain expertise of Marico Marine; the local experience of the Harbourmaster and staff; the expertise of the CentrePort Pilotage Service and finally by input from consultation with numerous Wellington Harbour Stakeholders. The identified hazards were ranked according to risk using expert judgement informed by incident records maintained the Wellington Harbourmaster. The risk assessment has used a risk scale of 1 to 10 in accordance with national guidelines, and set risk management criteria against that scale (see section 3.2). The greatest risks identified remain associated with passenger and freight RoRo services (which dominate the vessel movement profile) and difficulty being encountered by a vessel at the Wellington Harbour entrance feature highly in the rankings. These scenarios provided a score of 6.8 (out of 10), being at the upper limit of the As Low As Reasonably Practical (ALARP) criteria set for the study. This study recognises the safety management strides being made by RoRo ferry operators, but also recognises that the harbour system can assist considerably. Risk control recommendations are mostly presented in sections 12 and 13, with recommendations made in other areas to encourage use of the whole report. Full conclusions are made at page 97. Key recommendations are summarised here:-

- 1) Tug power is due for upgrade in Wellington as available bollard pull is no longer sufficient to handle the largest windage vessels in the changeable conditions at Wellington without further environmental limitations being considered.
- 2) Beacon Hill Signal Station is in need of equipment renewal and staff training to prepare for an enhanced future role. This role of needs to be defined and its systems and skill base brought into the 21st Century. Its ability to contribute effectively to vessel traffic management will remain immature until the future Safety Management System obtains stakeholder buy-in to its role and necessary upgrade.
- 3) The pilotage jurisdiction requires redesigning and introduction of a system of Pilotage Directions is recommended, which would be approved by MNZ. This represents a change to the approach presently used by Maritime Rules and may be applicable to other harbours in New Zealand.
- 4) Recommended Tracks require formalising for use by all and referred to in bylaws.

- 5) Improve the present frequency of hydrographic survey and use risk based techniques to develop a dredge programme based on known accretion rates.
- 7) Install wind, tide and wave measuring equipment on the Front Lead, measuring the environment at the most critical part of a deep draft vessel's transit.

CentrePort and Beacon Hill traffic management systems have a common purpose with respect to the movement of piloted vessels. Closer liaison between pilots and an upgraded Beacon Hill Signal Station are recommended to both use new technology and commence a move towards Vessel Traffic Management by information service. Electronic integration of radar and AIS data between Beacon Hill and the pilotage service would provide benefit, especially in reduced visibility conditions.