



# GREATER WELLINGTON REGIONAL COUNCIL

## WELLINGTON HARBOUR SAFETY MANAGEMENT SYSTEM

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**Greater Wellington Regional Council  
Wellington Harbour Safety Management System**

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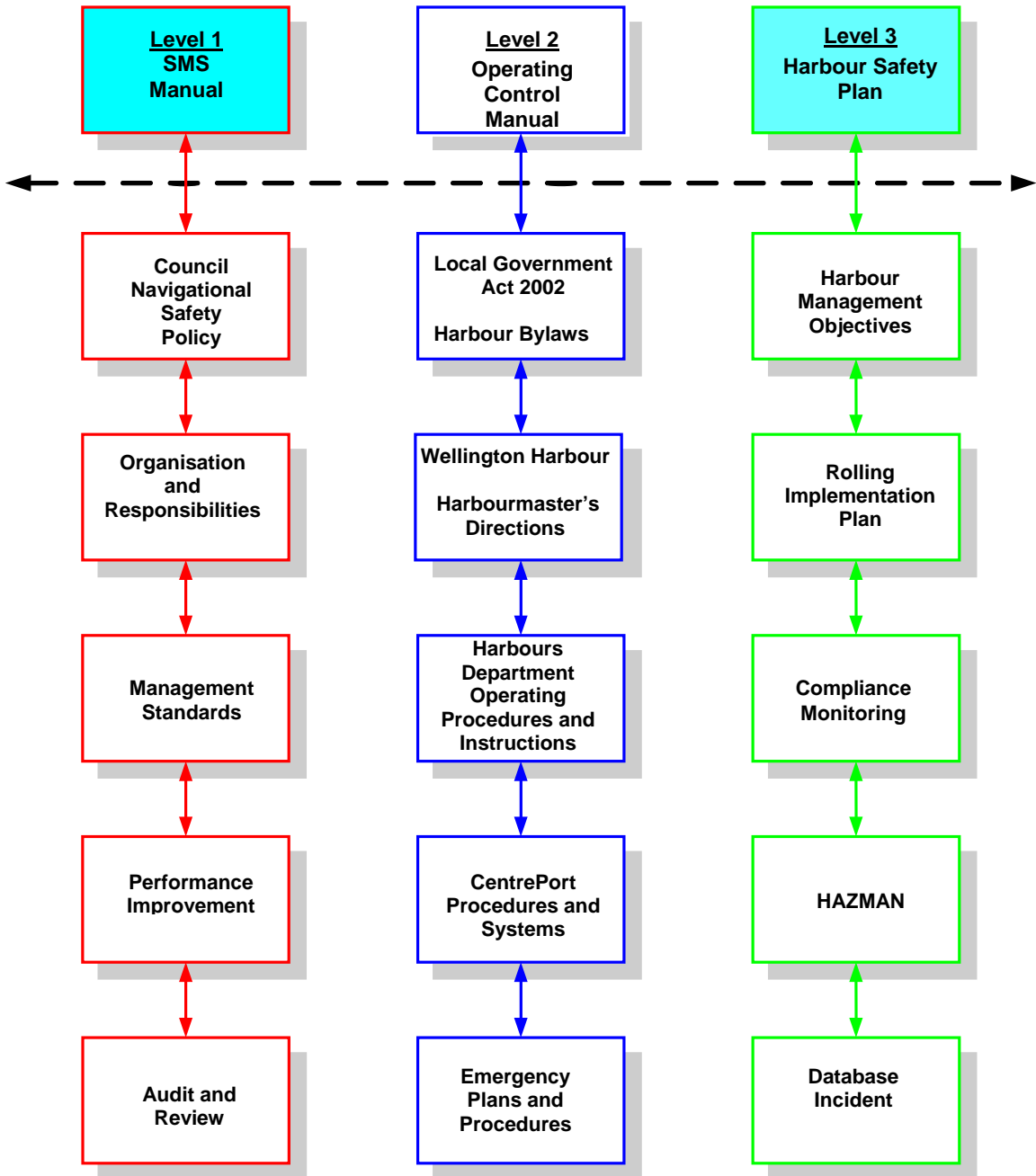
**August 2011**



# Components of the Navigational Safety Management System

**Figure 1**, below, shows the general structure of the Wellington Harbours Safety Management System, which is designed in three complementary levels.

The shaded boxes refer to this manual.



**Figure 1: Diagram Showing the Structure and Components of the Wellington Harbours Safety Management System**

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## 1 GLOSSARY AND ABBREVIATIONS

AIS	Automatic Identification System
Bylaws	Means in all cases the Navigation and Safety Bylaws, Wellington Region
DP	Designated Person- 24/7 contact person ashore for a vessel, company or organisation
Document Controller	Person appointed by the Harbour Master to be responsible for the maintenance and control of the SMS documentation
Harbour Safety Plan	A rolling plan annexed to the SMS Manual
Hot work	Welding or flame cutting operations.
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
INS	Information Service. Lowest level of IALA VTS service
ISGOTT	International Safety Guide for Oil Tankers and Terminals
LINZ	Land Information New Zealand
LNW	Local Navigation Warning
LPS	Local Port Service: level of service offered by Wellington Harbour Radio
MNZ	Maritime New Zealand
MOU	Memorandum of Understanding
PEC	Pilot Exemption Certificate
RC	Regional Council
RCCNZ	Rescue Coordination Centre New Zealand

RCM	Risk control measure
SAP	Business management software used by Wellington Regional Council
SAR	Search and Rescue
SMS	Safety Management System: the Harbour Master's Navigational Safety Management System
SOPs	Standard Operating Procedures
TAIC	Transport Accident Investigation Commission
VHF	Very High Frequency radio
VTS	Vessel Traffic Services
WHR	Wellington Harbour Radio, known locally as "Beacon Hill"



## 2 INTRODUCTION

Under the Local Government Act, Greater Wellington Regional Council takes the role of Harbour Authority for Wellington Harbour. Accordingly, it has an obligation under the New Zealand Port and Harbour Marine Safety Code to introduce a Navigational Safety Management System (SMS). The provisions of the Wellington SMS are set out in this manual.

The purpose of this document is to describe the overall framework for the management and co-ordination of marine activities necessary to facilitate navigational safety. The SMS arrangements referred to in this manual comply with the New Zealand Port and Harbour Marine Safety Code (2004).

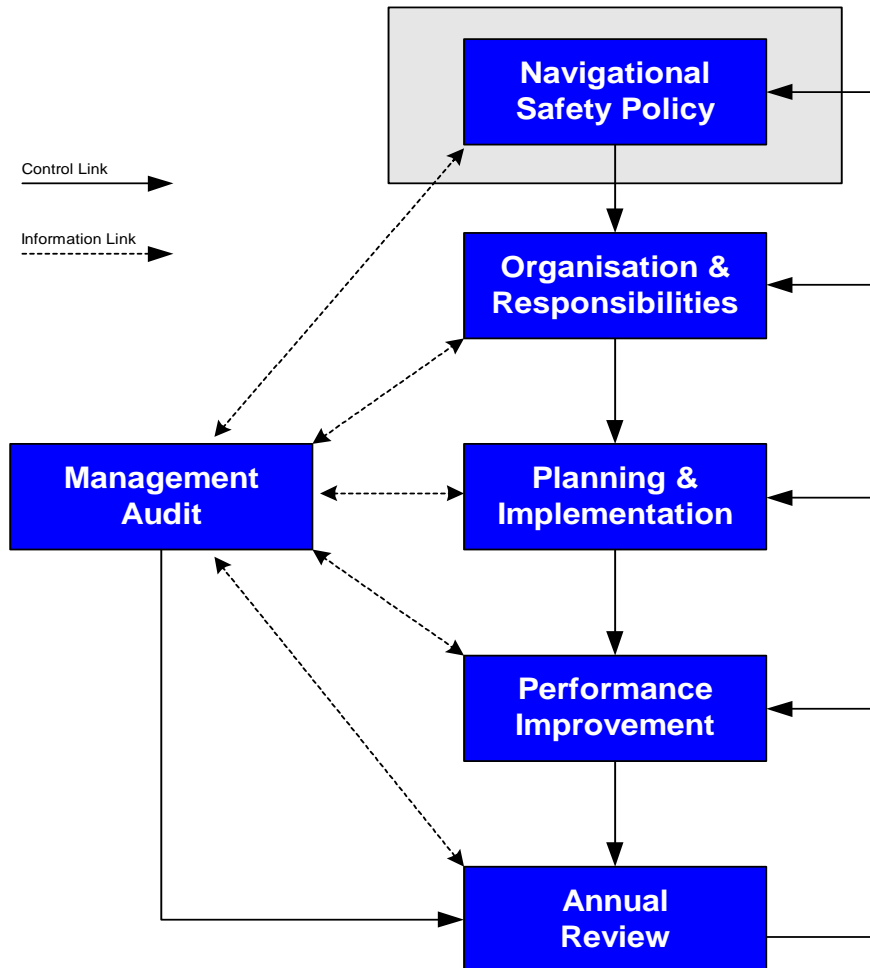
The Harbour Authority and CentrePort will work together to implement the controls and procedures required by this SMS Manual. CentrePort will maintain its own SMS Manual in the form of procedure manuals, but the SMS of GWRC will acknowledge and interface with the SMS of CentrePort. This will foster a culture of integrated navigational safety within the domain of the Harbour Master's responsibility to execute the Council's statutory function as the Harbour Authority.

### 2.1 SAFETY MANAGEMENT SYSTEM PRINCIPLES

The Harbour Authority's Navigational Safety Policies define the organisation and arrangements that are planned to monitor, promote and proactively manage the conduct of navigation and associated marine activities in the harbour so that the safety of those activities is enhanced. CentrePort is a key contributor to the navigational safety of Wellington Harbour and its existing systems should complement and support the principles of the Harbour Authority's Navigational Safety and supporting policies.

The SMS is structured into three levels as indicated in **Figure 1**. This manual represents Level 1, with the Level 3, planning and review systems, attached as annexes. The processes of harbour regulatory management and operation form Level Two which is published in a separate volume.

**Figure 2** shows the links between Policy, the organisational structure and the administration of the Safety Management System.



**Figure 2: Components of the Navigational Safety Management System**

## **2.2 PORT AND HARBOUR MARINE SAFETY CODE REQUIREMENTS**

The SMS procedures and guidelines fulfil the requirements of the Port and Harbour Marine Safety Code including, but not limited to, the following:

- Making risk control the basis of all marine activities, procedures, Bylaws and directions
- Using risk assessment to identify the requirement for navigation aids
- Applying risk assessment to all proposed harbour developments affecting navigational safety
- Subjecting new and potential hazards to risk assessment
- Subjecting wrecks and abandoned vessels to risk assessment
- Periodically reviewing the provision of safe anchorages
- Maintaining risk control measures to implement the findings of risk assessments
- Identifying, designating and periodically reviewing safe pilot boarding areas in accordance with Maritime Rules Part 90
- Applying current pilot transfer arrangement standards in accordance with CentrePort SOPs
- Reporting deficiencies on inbound and outbound vessels.
- Providing procedural advice for giving directions in relation to dangerous vessels or substances
- All staff shall be suitably qualified and trained for the tasks they are required to perform
- Maintaining appropriate plans and procedures for emergency response and associated training/exercises
- Using verification/audit systems

The Harbours Department will undertake a formal review every five years to ensure it meets the requirements of the Port and Harbour Marine Safety Code.

## **2.3 SYSTEM COMPONENTS**

The SMS focuses on the operational and administrative output of the Harbour Master's department.

It includes the following components:

- Navigational and Marine Policies
- Navigational SMS Manual
- Risk assessment and risk control measures
- Hazard Management Database – HAZMAN
- Incident Database

- Rolling Harbour Safety Plan
- Staff involvement and consultation
- Wellington Harbour navigation user groups (including pilotage)
- Records and controls
- Audit and review

Risk Control Measures will fall into two broad categories. Some measures, particularly some of the physical components are planned for the future and will be progressively introduced and implemented.

### **1. Documentary**

- Regulatory Framework
- Accurate charts and other navigational information
- Operational manuals and guidelines
- Emergency plans and procedures
- Local navigation warnings

### **2. Physical**

- Radars
- VHF Communication
- Landline communication
- AIS messaging facility
- LPS system operated by Wellington Harbour Radio
- Tide gauges
- Wave measuring equipment
- Swell monitoring
- Weather monitoring
- Aids to navigation
- Anchorages and emergency moorings
- Emergency anchorages
- Harbour Master's vessels

### **3 COMMITMENT STATEMENTS - NAVIGATIONAL SMS**

Greater Wellington Regional Council, as the Harbour Authority, is the body accepting responsibility for setting and monitoring the standards of navigational safety within its harbour jurisdiction and has committed itself to comply with the requirements of the New Zealand Port and Harbour Marine Safety Code (Ref. PHMSC 1.4.3 a-d).

Furthermore, it is committed to ensuring that the appointed Harbour Master is adequately resourced and funded to exercise their statutory powers and functions towards navigational safety obligations (Ref. PHMSC 1.4.3 e).

One key purpose of this document is to show a link between:

- This Commitment Statement
- The policies set by the Harbour Authority
- The Harbour Department's management arrangements, controls and provisions that discharge those policies
- CentrePort's management arrangements and controls that meet the requirements of these policies

#### **3.1 CENTREPORT COMMITMENT STATEMENT**

CentrePort is committed to meeting its obligations under the New Zealand Port and Harbour Marine Safety Code. As such, it is committed to ensuring that its Navigational Safety related Policies, and subsequent Safety Management System support and do not conflict with those of Greater Wellington Regional Council.

CentrePort recognises that the Regional Council has the statutory responsibility to provide for and regulate navigational safety in the harbour. CentrePort also recognises the Council's authority and responsibilities under the New Zealand Port and Harbour Safety Code, and supports the Council's commitment to comply with the requirements of the code.

CentrePort and the Greater Wellington Regional Council Harbours Department enjoy a close working relationship and CentrePort is committed to strengthening this through formal recognition of, and so far as is reasonably practical, integration of CentrePort's Navigational Safety Management System with Council's Navigational Safety Management System and Policies.

## **4 POLICIES**

The Navigational Safety Policy and its supporting policies set out the Council's intentions (in its statutory role as Harbour Authority for Wellington Harbour) and its commitment to navigational safety. It also describes the organisational responsibilities and arrangements established to ensure that the policy is implemented. The policy, with its supporting policies (LPS, Pilotage, Enforcement and Consultation), contributes to operational objectives and states the Harbour Authority's commitment to meet its statutory responsibilities. The fundamental objective of the SMS is to demonstrate the consistent application of these policies.

### **4.1 PURPOSE AND USE OF THE POLICIES**

The primary purpose of these Navigational Safety and supporting Policies is to provide an overall standard for marine operations throughout Wellington Harbour. They also provide a reference point for a variety of operational decisions, including the selection of resources and the design and implementation of safe working practices.

### **4.2 POLICY DEVELOPMENT AND COMMUNICATION**

The Navigational Safety and supporting policies were developed by the Harbours Department in consultation with CentrePort and are approved by Council. The Policies have been communicated to staff, CentrePort, harbour users and interested parties. Once these policies are operational all staff members will be advised and will have access to a copy. In addition, the Council is committed to working closely with harbour stakeholders to aid the development of the SMS, which will enhance compliance with the Port and Harbour Marine Safety Code.

There is a continuing process of briefing and updating information with regard to navigational safety with all Harbour Department staff.

#### 4.3 PORT AND HARBOUR MARINE SAFETY CODE POLICY

Wellington Regional Council is committed to complying with the requirements of the NZ Port and Harbour Marine Safety Code. It will do this by:

- Regulating navigation in a way that safeguards the harbour, its users and stakeholders, the public and the environment
- Ensuring that relevant assets of the harbour are managed safely and efficiently
- Ensuring the provision of adequate resources (including staff training) to discharge its navigational safety obligations
- Making available relevant navigational information to all harbour users
- Working closely with key stakeholders to aid the development of the SMS
- Working closely with key stakeholders to ensure the on-going relevance of the SMS
- Publishing relevant parts of the SMS and Long Term Plan (attached at **Annex B**) and employing a continuous process of updating information with regard to navigational safety through the GWRC public web site

#### 4.4 NAVIGATIONAL SAFETY POLICY AND SUPPORTING MARINE POLICIES

The Regional Council's policies to guide the delivery of navigational safety management are recorded below. This manual is updated with current policy as approved by Council.

## NAVIGATIONAL SAFETY POLICY

The Wellington Harbour Authority has a primary responsibility to facilitate the safety of navigation within the harbour jurisdiction. It also has responsibility to assist MNZ manage pilotage standards within compulsory pilotage limits for Wellington.

To this end, it is Regional Council policy for the Harbours Department to:

1. Establish, fund and maintain an effective Safety Management System based on a continuing, formalised assessment and mitigation of risk in consultation with navigational users.
2. Review the Bylaws at intervals of not more than ten years in line with legislated requirements and annual reviews of directions in respect of navigational safety.
3. Maintain a formal policy towards the provision of a Local Port Service and its interface with both piloted and pilot exempt harbour traffic.
4. Periodically review management of the navigation of vessels within the harbour jurisdiction.
5. Maintain formal policy towards pilotage and periodically review the level, competence and availability of the pilotage service in accordance with Maritime Rules Part 90.
6. Facilitate an appropriate patrol service for Wellington Regional Harbours proportional to navigational use.
7. Maintain and regularly review a formal policy towards enforcement.
8. Undertake or require such hydrographic surveys as are necessary for safe and efficient navigation within Wellington Harbour to:
  - Provide harbour users with up-to-date, timely and accurate hydrographic information
  - Provide, timely and accurate tidal data
  - Maintain an overview of maintenance dredging, as appropriate
9. Assess and, where necessary, require removal of sunken or derelict or abandoned vessels and other obstructions that are, or may become, an impediment to safe navigation.
10. Provide the necessary aids to navigation and maintain a close liaison with owners of other aids for which the Regional Council does not have maintenance responsibility.
11. Make available relevant navigational information to all harbour users;
12. Maintain liaison with harbour stakeholders and seek input as required on matters influencing navigational safety.
13. Provide professional advice in the resource consent process under the Resource Management Act, 1991, for any form of development affecting navigational safety within Wellington Harbour jurisdiction.



## LOCAL PORT SERVICE POLICY

In order to provide for safe navigation in Wellington Harbour, the Harbour Authority, in implementing the risk control measures outlined in the risk assessment, has a commitment to:

1. Maintain and operate an effective Local Port Service (LPS) from Wellington Harbour Radio.<sup>1</sup>
2. Where practical and appropriate operate the LPS to the standard of an Information Service (INS) as described in the latest edition of the IALA Vessel Traffic Services Manual.

To this end it is Council policy that the Harbours Department intends, in accordance with the Harbour Safety Plan, to:

1. Operate a 24 hour LPS to support its published Navigational Safety Policy
2. Monitor all commercial movements and maintain VHF communications with such vessels
3. Ensure that the LPS is appropriately equipped to allow a continuation of essential services in the event of failure of either hardware or software
4. Immediately inform affected users of any temporary reduction in service and/or coverage
5. Define in the Navigation and Safety Bylaws vessel reporting requirements and review areas where and when reporting should be compulsory within its area of responsibility
6. Regularly review the performance of the system and seek improvements through technical enhancement, staff development, training and effective management, as necessary
7. Provide timely navigational information and advice, as required
8. Assist Police or RCCNZ by providing effective communication and, when required, activate the harbour response to emergency incidents
9. Train operators to meet local requirements and, where practical and appropriate, to a standard equivalent to IALA V103/3, Level 3
10. Facilitate continued professional development, working towards the establishment of an authorised INS VTS staffed by V-103 certified personnel (Note: empowering legislation must be enacted to allow a VTS to be established)
11. Record all relevant radar, video, VHF and telephone communications as an aid to enforcement and incident reconstruction and investigation
12. Record commercial vessel movements in the harbour

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<sup>1</sup> Note: LPS is not an authorised VTS and a VTS cannot be established in New Zealand without empowering legislation.

## **PILOTAGE POLICY**

Maritime New Zealand is responsible for pilotage and the issuing of certificates. Under delegated authority the Harbourmaster may support this system and examine candidates and administer the local system of pilotage (including PECs).

The Council's policy in respect of pilotage is to:

1. Monitor that the operation of the pilotage service is compliant with CentrePort's SOPs and Maritime Rules Part 90
2. Monitor to ensure there is an appropriate level and competence of the pilotage service in accordance with Maritime Rules Part 90
3. Develop and keep under review a system providing equivalence to Pilotage Directions within the bylaws to ensure that the particular risks associated with Wellington Harbour are managed in accordance with the needs of the Navigational Safety Management System
4. Maintain a formal interface between the Pilotage Service and LPS
5. Review the boarding areas as required
6. Administer the PEC monitoring system to ensure that all PEC applicants and holders meet the requirements laid down in Maritime Rules Part 90
7. Ensure close liaison with CentrePort with regard to the Pilotage Policy of that organisation, to ensure that the Pilotage Policies of the two organisations are mutually supportive
8. Ensure that an MOU or contract for services is in place to cover the relationship between the Harbour Authority and any third party assisting with the examination of PEC candidates

## **ENFORCEMENT POLICY**

The Harbour Authority is empowered to prosecute offenders for breaches of Bylaws made under the Local Government Act, and assist MNZ in any investigation under the NZ Maritime Transport Act. In order to ensure compliance with the provisions of such statutes and Bylaws, particularly where navigational safety and protection of the environment are concerned, it is necessary that an appropriate enforcement regime be maintained to encourage compliance, to deter non-compliance and to punish offenders.

To this end, it is Council policy that the Harbours Department shall:

1. Develop and maintain effective enforcement based on a continuing review of relevant legislation and the provision of appropriate training for its staff
2. Facilitate an appropriate patrol service for Wellington Regional harbours
3. Maintain an effective surveillance regime to monitor compliance with and detect breaches of, the Bylaws and Harbour Master's Directions
4. Investigate significant breaches of the Bylaws and Harbour Master's Directions
5. Maintain records of all investigations
6. Where appropriate, work with and inform other relevant authorities of investigations
7. Respond to breaches of the Bylaws and Harbour Master's Directions, as justified by the evidence and other circumstances, by the use of formal warnings, infringement notices and prosecution

## **CONSULTATION POLICY**

The Port and Harbour Marine Safety Code emphasises the importance of effective consultation by all navigational stakeholders. This includes all those who work in the Wellington Harbour or use the waterway in some form, as well as those that represent them.

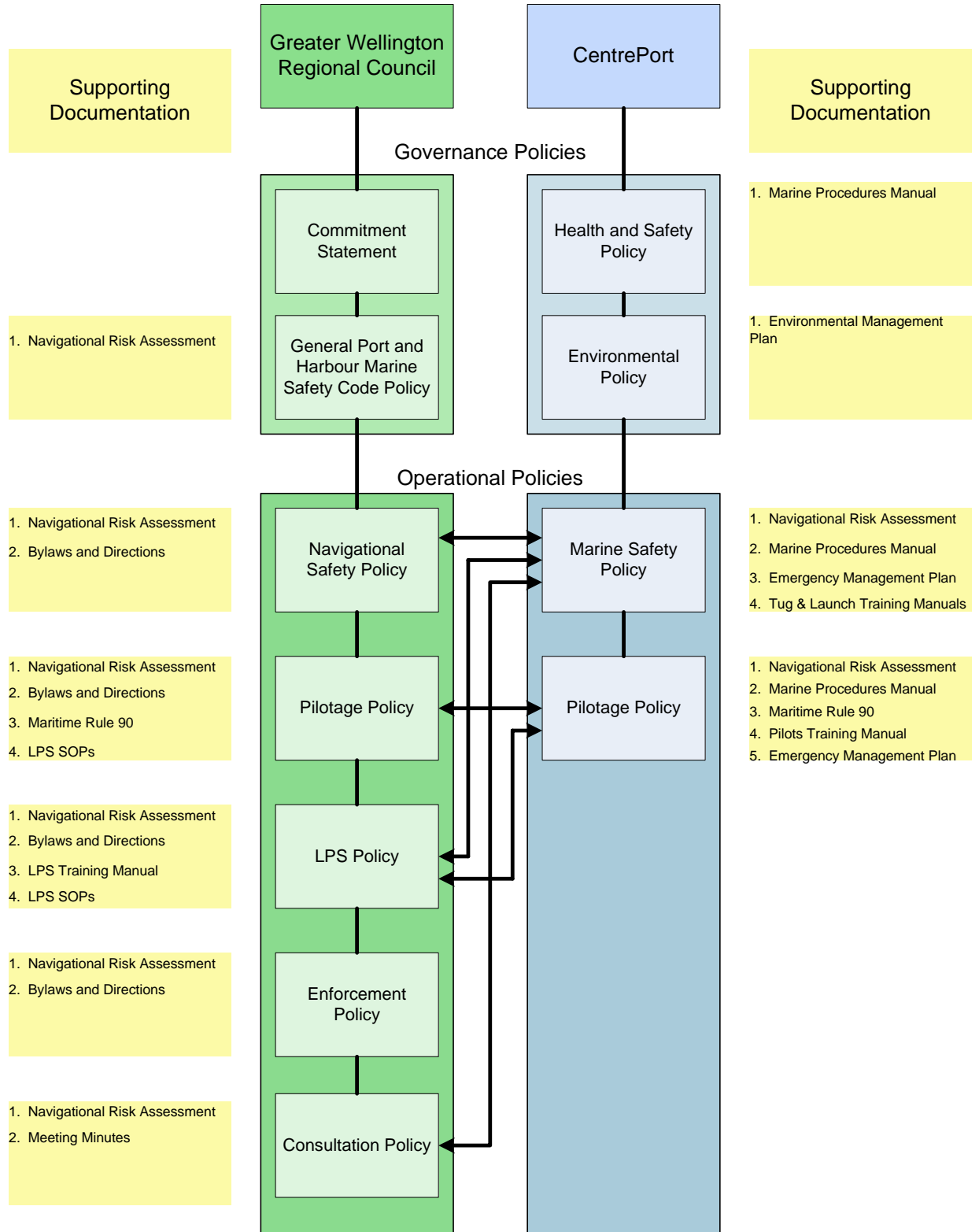
It is therefore Council policy that it shall publish matters of relevance to, and encourage comment and contribution from, navigational stakeholders.

In particular, the Harbour Authority shall:

1. Consult as early as is practicable with stakeholders when changes to legislation, Bylaws and policy are being considered
2. Include appropriate Councillors and Council staff in the consultation process
3. Maintain an effective consultation mechanism with appropriate stakeholders on navigational safety and other operational issues
4. Include appropriate Wellington Harbour stakeholders in the on-going work to identify navigational hazards, assess the risk of such hazards and recommend appropriate control and mitigation measures

## 4.5 POLICY RELATIONSHIPS

It needs to be recognised that the port company and Regional Council maintain policy to manage navigational safety. The relationship between both organisations is shown in **Figure 3**.



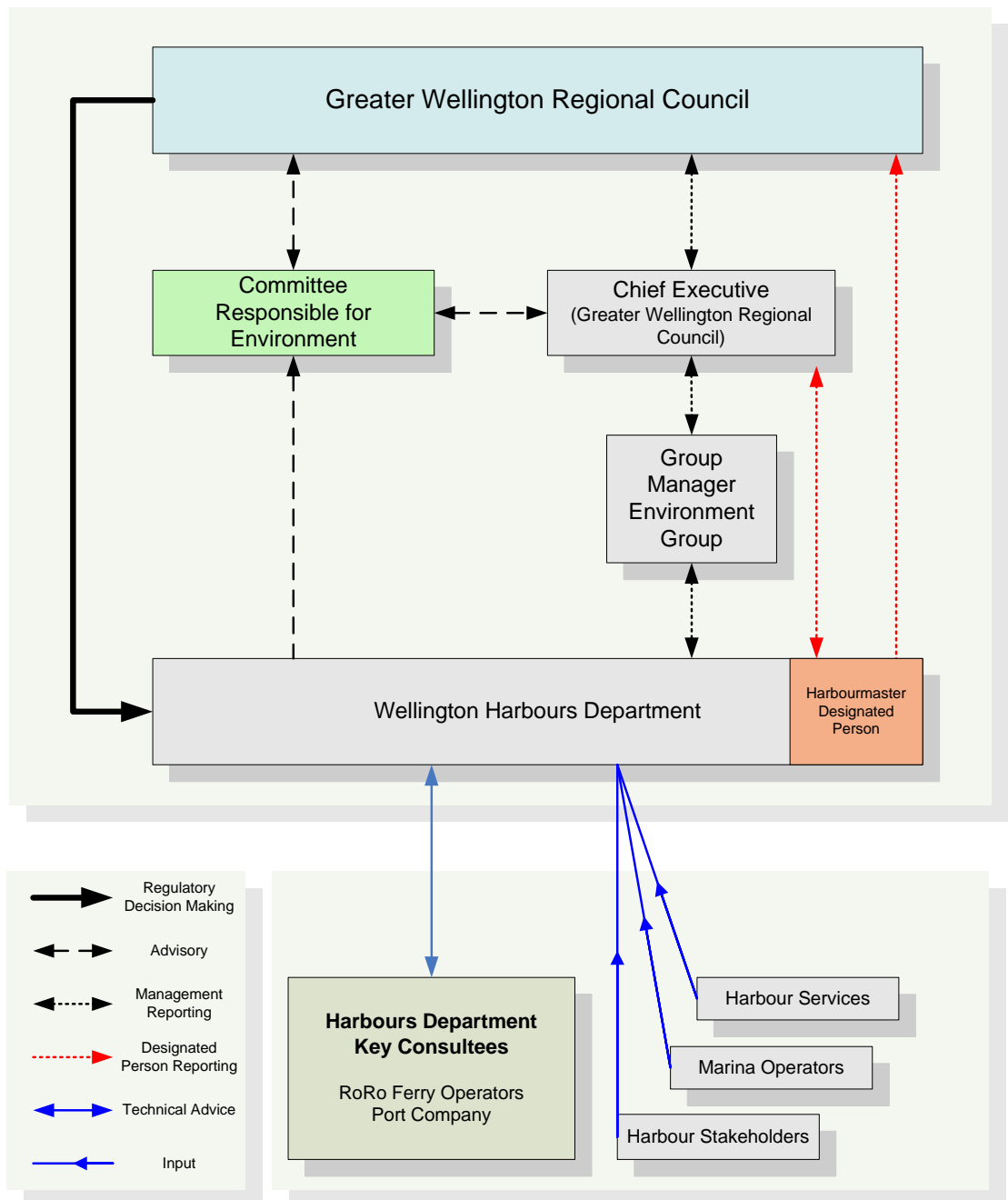
**Figure 3: Relationship between GWRC and CentrePort policies**

## 5 ORGANISATION

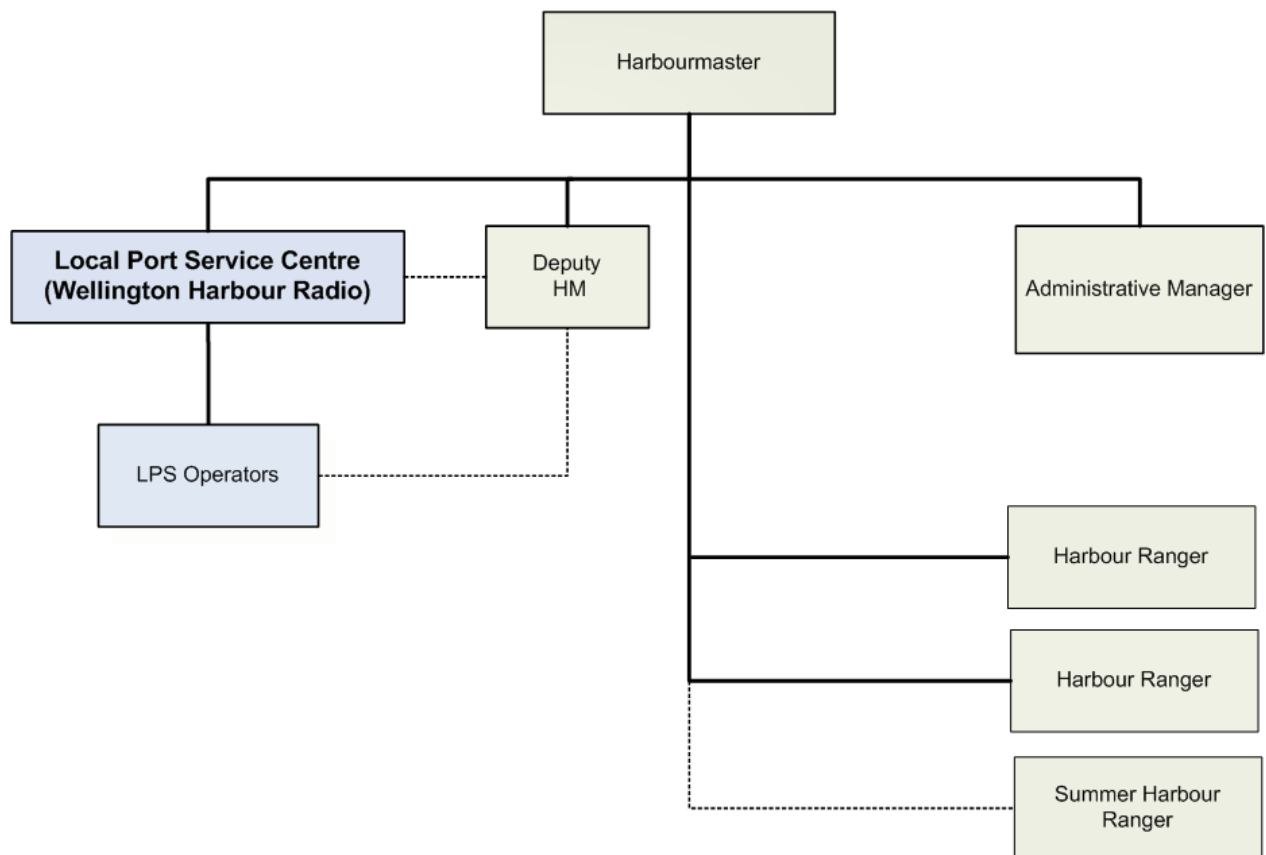
### 5.1 FUNCTIONAL STRUCTURE FOR THE MANAGEMENT OF NAVIGATIONAL SAFETY

The Organisational structure connecting the Council Management System, the Council itself (both the Main Council Assembly and its committee responsible for the Harbours Department) is shown in **Figure 4**.

The Harbours department is structured as shown in **Figure 5**.



**Figure 4: Harbour Regulatory Structure**



**Figure 5: Structure of the Harbours Department**

## 5.2 RESPONSIBILITIES

### 5.2.1 The Council

In respect of navigational safety, the Council:

- Discharges the duties and exercises the powers given to it, both directly and by delegation in accordance with the Local Government Act
- Discharges the function of Harbour Authority as defined in the New Zealand Port and Harbour Marine Safety Code by ensuring compliance with the Code, and the safe management of navigation
- Approves the strategy, policies, plans and budgets of the Harbours Department, together with its strategic objectives
- Review, as part of the standard council audit process, the performance of the Harbours Department against its strategic and operational objectives, plans and budgets

### 5.2.2 Harbour Master

The Harbour Master is appointed by the Council to discharge the statutory role of Harbour Master in accordance with the Local Government Act and the New Zealand Port and Harbour Marine Safety Code. He is responsible for delivering navigational safety policy, keeping the Chief Executive advised and Council informed. This role is fundamental to ensuring that the SMS fulfils

the marine aspects of the Council's statutory duties and relevant non-statutory obligations.

### **5.2.3 Designated Person (DP)**

In meeting its obligations under the New Zealand Port and Harbour Marine Safety Code, the Council has appointed a 'Designated Person', the Harbour Master, who maintains a right of direct access to the Council and/or the Chief Executive, as appropriate.

The role of the 'Designated Person' is to:

- Provide assurance that the Council has an effective and appropriate Navigational Safety Management System
- Provide the Council with professional advice regarding the Council's overall compliance with the requirements of the New Zealand Port and Harbour Marine Safety Code

### **5.2.4 Harbour Stakeholders**

Harbour stakeholders may provide input about specific issues to the Harbours Department and will be convened by the Harbour Master where there is an issue to be considered. The make-up of these groups may change from time to time, dependant on the harbour stakeholder experience most able to contribute to the issue under consideration. A harbour stakeholder group may be formed by individual invitation or it may be formed from an existing Harbour Interest Group, depending on the issue being considered. For example, an issue involving ferries, a harbour stakeholder group comprising representatives of ferry operators would be consulted, whereas a recreational issue would involve a harbour stakeholder group represented by either boating clubs or individuals with relevant navigational interest in the harbour.

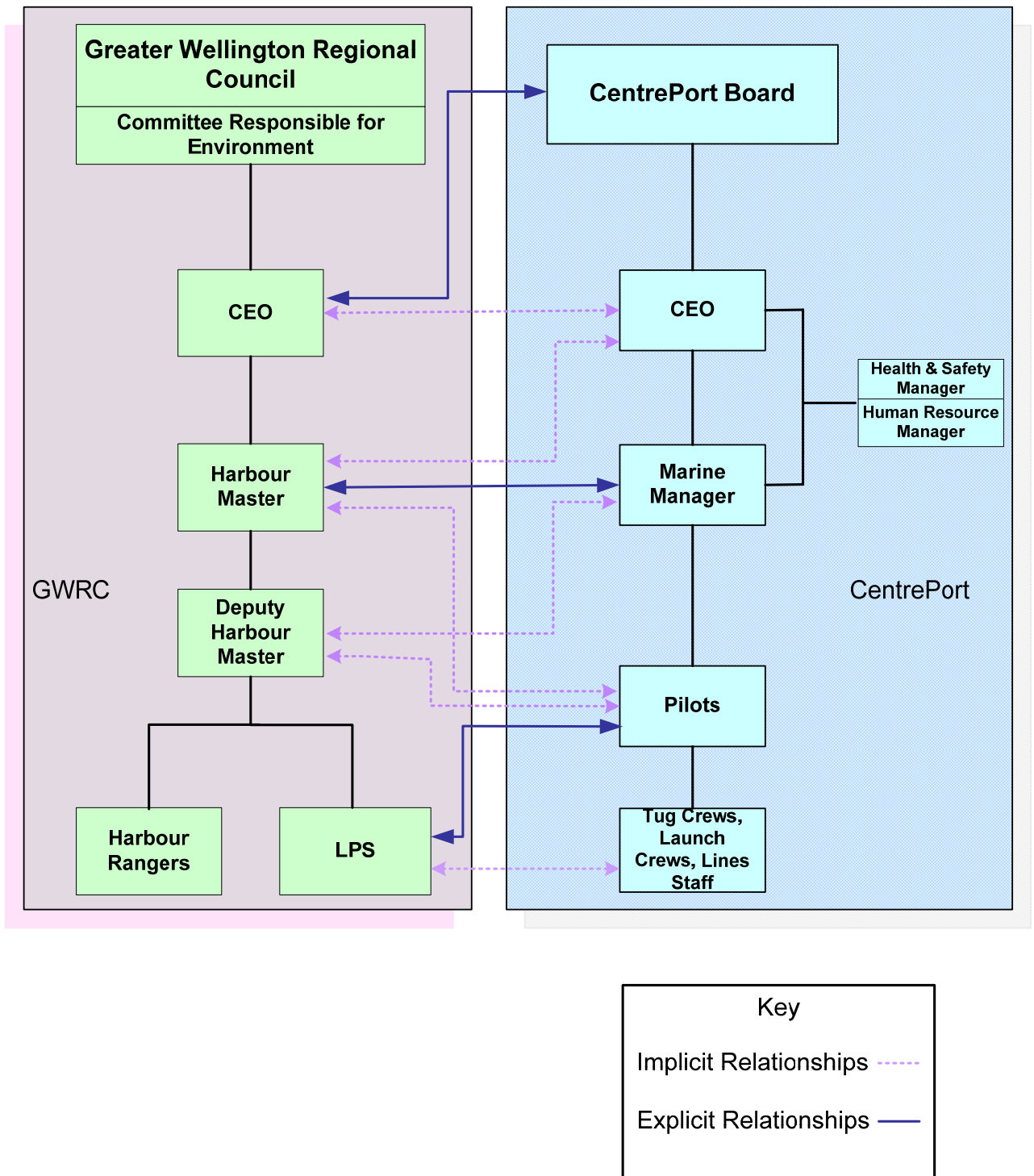
### **5.2.5 The Port Company**

CentrePort operates the commercial berths extending from Waterloo Quay to the Rail Ferry Terminals, as well as the tanker terminals at Seaview and Burnham. A berth at Miramar is used for laid-up vessels. CentrePort also has a license to berth non-commercial vessels at wharves owned by Wellington Waterfront Limited.

CentrePort provides pilotage and towage and is therefore the entity responsible for the delivery of these services, including training. CentrePort retains responsibility to the SMS to put in place systems to safely assist vessels and craft making approaches to its terminals. The Harbour Master ensures that CentrePort's Pilotage Procedures remain appropriate and to assist with their interface as a level 2 component of this SMS.



The involvement of CentrePort and the avoidance of conflict of interest are vital to the successful delivery of the Wellington Harbour SMS. The operational relationship between the organisations that have a major influence over the harbour is shown in **Figure 6**. The Designated Person within CentrePort's structure is the Marine Manager.



**Figure 6: Operational Relationships between GWRC Harbours Department and CentrePort**

## 6 IMPLEMENTATION

### 6.1 NAVIGATIONAL SAFETY PLAN

In association with its duties and responsibilities, the Harbours Department has developed a Harbour Safety Plan. The overall purpose of the plan is to collate all actions requiring to be implemented and to set target completion dates.

A long term plan for implementation of the Safety Management System is available at **Annex B**. This is continuously reviewed to produce strategic objectives for the forthcoming 5 year period. The Annual Harbour Safety Plan is attached at **Annex C**. The objectives of the plans are to:

- Reduce risks to as low as is reasonably practicable
- Ensure all reasonably practicable steps are taken to identify the hazards and risks arising from operational activities in Wellington Harbour.
- Ensure conformance with the navigational safety and marine policies, associated operating controls and applicable port and marine legislation and non-statutory obligations
- Periodically review data gathered from audits, inspections, incidents and any concerns raised to evaluate and determine where improvements and changes need to be made
- Facilitate port user involvement in the maintenance of the SMS and the overall improvement in the provision of navigational safety
- Communicate the Council's on-going efforts and achievements in facilitating navigational safety to all stakeholders
- Review the effectiveness of and continually improve the SMS

### 6.2 LONG TERM HARBOUR SAFETY PLAN REVISION

The Long Term Harbour Safety Plan (**Annex B**) is reviewed periodically, driven by the achievements of the Annual Safety Plan (**Annex C**). At minimum, it is reviewed every five years.

### 6.3 COUNCIL LONG TERM PLAN REVISION

The Council Long Term Plan is reviewed and reissued annually. Its review is undertaken to facilitate financial planning for the forthcoming financial year.

## **7 SMS DATA**

The SMS has been informed by a comprehensive navigational risk assessment undertaken in 2005. A summary of the Key Hazards arising from that study are presented at **Annex A**. The full record of the 2005 Risk Assessment should be referred to for a complete hazard list.

### **7.1 SAFETY MANAGEMENT ARCHIVE - HAZMAN**

The Hazman database contains details of all identified hazards, together with the associated risk control measures employed to mitigate those hazards. Both hazards and risk control measures have a designated 'owner'. All hazards are maintained within the system in ranked order, based on the outcome of the risk assessment process. This ranking structure will change with time as the hazards and risk controls continue to be reviewed, reassessed and rescored.

The archive also includes a comprehensive audit record, which documents the outcome of the scheduled proactive hazard review process, any incident review and the addition of any new risk and its associated assessment. In each case the outcome of the review is recorded and includes:

- The action taken and recommendations made by or to the Harbour Master
- The names of those involved and their recommendations
- Subsequent recommendations/mitigating actions arising from the review

The day to day administration of Hazman is the responsibility of the Harbour Master or a person delegated by the Harbour Master. In particular, the person responsible shall:

- Maintain, administer and interpret the Hazman database to assist the Harbour Master
- Maintain and administer the Hazman database to ensure the effective recording, availability and archiving of marine accident and incident information

Once a record has been initiated, additional information is included in respect of the outcome of the Harbour Master's initial regulatory investigation, and subsequently details of any follow-up disciplinary action and/or prosecution.

### **7.2 INCIDENT DATABASE**

Maritime New Zealand holds an incident database which is accessible to the Harbour Master through an Official Information Act request. The Harbour

Master maintains a record of significant incident reports and complaints received.

## **8 RISK CONTROL MEASURES**

The generic risk control measures employed by Greater Wellington Regional Council can be categorised as follows:

### **8.1 DOCUMENTARY RISK CONTROLS**

- Regulatory Framework including the Bylaws and Harbour Master's Directions
- The provision of tidal and other navigational information including advice of wind conditions at strategic locations in the port
- Department Operational Manuals and Procedures
- Emergency Plans
- Local Navigation Warnings
- General navigational guidance and advice

### **8.2 PHYSICAL RISK CONTROLS**

- AIS receiver with base station messaging facility
- Radars –there are plans to upgrade and expand radar coverage to include the inner harbour
- VHF Communication – A marine radio network covering VHF Channel 14 and Channel 16, providing effective harbour communications between Wellington Harbour Radio and all harbour users
- Landline communications with port and emergency services
- Wellington Harbour Radio upgraded to a PC based integrated traffic display system
- Tide Gauges – A system of tide gauges located within the harbour providing live tidal information
- Aids to Navigation – Buoys, beacons, marks and lights etc. maintained by GWRC, CentrePort and local authorities in the harbour
- Weather and swell monitoring systems

#### **8.2.1 Local Port Service**

A Local Port Service (LPS) is provided from Wellington Harbour Radio Signal Station. The station monitors vessel traffic within the area of responsibility. To do this effectively, the Council intends the LPS service to provide a continuous service within the limitations imposed by:

1. The level of training and qualification achieved by LPS personnel
2. The level of service to be promulgated
3. The availability and operability of LPS equipment

The LPS service will:

1. Monitor visually and by radar, AIS, VHF, and any other available means, all vessel traffic within the harbour limits and approaches. The service will include but not be limited to:
  - Recording of all known vessel traffic within the harbour
  - Recording of persons on board (POB) all vessels required to participate in the vessel reporting system
  - Recording of reported equipment deficiencies on vessels transiting the harbour
2. Act as an Information Service, provide Local Navigation Warnings (LNW) by VHF broadcasts of any known hazards to navigation and broadcasts of weather and tidal information on request. Swell conditions will be monitored and will be broadcast along with meteorological information. LPS will also provide information of known vessel traffic movements to reporting vessels
3. Provide assistance to the Police or RCCNZ SAR co-ordinator in the event of emergencies or SAR events arising within the local vicinity
4. Provide support to the On Scene Commander in the event of a pollution incident within Wellington regional harbours
5. Develop staff training to eventually deliver an IALA approved VTS Information Service (INS). Appropriate equipment has been installed and training to the appropriate international standard will be implemented as required when the required legislation is introduced
6. Undertake general administrative data maintenance to include, but not be limited to, local meteorological data and records of equipment operability, reporting any anomalies or defects will be reported to the Harbour Master
7. Comply with the Harbour Master's Standing Orders, SOPs and any relevant legislation

#### **8.2.1.1 LPS Relationship with CentrePort**

Under a stand-alone contract for the provision of services, the LPS will, as the interface between shipping activities and CentrePort, provide information and communication services to CentrePort.

#### **8.2.2 Harbour Patrol Service**

The Harbour Master will maintain the ability to carry out harbour patrol services as required and support administrative follow-up to assist in the effective regulation, education and enforcement of navigational safety policy.

### **8.2.3 Aids to Navigation**

The Harbour Master is responsible for the provision and maintenance of the GWRC owned navigational beacons, buoy and lighthouses.

### **8.2.4 Removal of Wrecks**

The GWRC has a limited capability to remove wrecks and obstructions that are deemed to be hazards to navigation. Power to undertake this is found in the Local Government Act as well as Navigation Safety Bylaws.

### **8.2.5 Pilotage**

Pilotage is supplied by CentrePort. The Regional Council supports a pilotage policy with CentrePort providing the interface for the deployment of authorised pilots to vessels. Pilots are required to report the movement of any piloted vessel to Wellington Harbour Radio.

### **8.2.6 Towage**

Towage is supplied by CentrePort to vessels requiring tugs. CentrePort maintains and regularly reviews an asset management plan to address potential future towage requirements.

### **8.2.7 Emergency Preparedness and Response**

The Council has established emergency response plans and procedures to address marine emergency incidents. Training exercises shall be held for any emergency response plan which has not been activated in the previous 12 months.

### **8.2.8 Environmental Management**

The Council maintains effective procedures and control measures through the Resource Management Act designed to ensure that the potential impact on the environment is fully considered when planning or approving commercial and recreational activities within the port.



## **9 SYSTEM OPERATION AND CONTROL**

### **9.1 DOCUMENT CONTROL**

The document control procedure for the Safety Management System will be in accordance with the requirements of the Harbour Master. All documents within the SMS are reviewed and approved, as appropriate, by the Harbour Master prior to issue. A record of changes is to be maintained in the front of the relevant SMS manual.

### **9.2 NAVIGATIONAL SMS REVIEW PROCESSES**

The identification and assessment of navigational hazards is central to the effective maintenance of the SMS. Hazman will be used as the basis for the review of both new and existing hazards and their preventative control measures.

Reviewing identified hazards and risk control measures will involve the Council's maritime staff and port stakeholders, as appropriate. It may also, on occasions, involve external specialist consultants.

The review of hazards and control measures are prompted by three circumstances:

1. Planned, periodic, formal review of established hazards and risk controls, initiated by the Hazman software
2. Review of hazards and associated risk controls following an incident
3. The identification and assessment of any potential hazards arising from changes to circumstances including the introduction of a new trade and/or marine operation

#### **9.2.1 Periodic Reviews - Proactive**

The SMS review schedules revision of individual hazards and their associated risk control measures for periodic review. This is set up electronically within the Hazman software. Additionally reviews are conducted when required by changed circumstances.

This schedule ensures that all currently identified hazards are reviewed over a five year period, some more frequently than others.

All hazards and risk control measures have been allocated an 'Owner', normally the Harbour Master or his Deputy, CentrePort, or a delegated specialist appointee. A hazard owner may be given a hazard to review but its risk control measures will always be the responsibility of the Harbour Master to review or audit as necessary. The Harbour Master has responsibility for

allocating persons or entities to undertaking the hazard review, which could involve an external organisation. A review will be undertaken in consultation with staff members, CentrePort and port stakeholders as appropriate.

### **9.2.2 Post-Incident Reviews - Reactive**

Following a navigational incident, the Harbour Master facilitates an information flow to Maritime New Zealand. They will also establish whether there is a need to review the relevant hazard in the Hazman software package and its associated control measures.

### **9.2.3 New Risk Assessments**

Whenever circumstances change to bring in activities outside the existing scope of the SMS, the Harbour Master will, in full collaboration with the relevant stakeholders, undertake a risk assessment of the intended operation.

## **9.3 RISK ASSESSMENT STANDARDS**

### **9.3.1 Methodology**

The general risk assessment process used is based on the standards published by Maritime New Zealand. This formal approach involves the following five sequential assessment stages, applied in appropriate depth:

#### **1. Data gathering and familiarisation**

Review of the existing management structure, risk control arrangements, policies, procedures and operational functions.

#### **2. Hazard Identification**

Identification of potential hazards and mapping of existing control measures.

#### **3. Risk Analysis**

Consideration of the likelihood of an identified hazardous incident occurring, and the potential consequences, including prioritising of the risk factors.

#### **4. Risk Assessment**

Comparison of risk factors with the effectiveness of existing risk control measures, and identifying additional control measures which will mitigate the risk.

## **5. Risk Control**

Evaluation and endorsement of specific control measures to be implemented and managed through the SMS.

### **9.3.2 Risk Level Criteria**

The resulting risk level from each identified hazard is determined by numerically comparing the potential severity of the consequences (against life, the environment, property and port business) and the likelihood of that hazard occurring.

Hazards are then ranked according to their numerically scored risk level. It is the principle aim of the on-going hazard review process to actively manage the risk control measures associated with each hazard and attempt to reduce the level of risk, and therefore the ranked score, at each review.

## **10 TRAINING**

### **10.1 COMPETENCE ASSURANCE**

The competence assurance process is linked directly to personnel selection and recruitment procedures, relevant job descriptions and appropriate recruitment selection criteria.

Typically, the process comprises four stages:

#### **Stage 1: Selection**

A person shall not be employed unless the entry-level criteria has been satisfied. Entry-level requirements are normally defined within the relevant job description and vacancy notice.

#### **Stage 2: Induction Training**

All new staff, including any temporary personnel, will receive appropriate induction training. This will take the form of general induction training common to all new Council staff, followed by departmental induction training and operational briefings as appropriate. The Harbour Master is required to record that induction training has been completed.

#### **Stage 3: Supervision and On the Job Training**

Once a person has been selected as suitable to fulfil a specific job function, that person will be placed under the supervision of a competent person who will oversee the training. The competent person will recommend when the trainee is considered competent. Alternatively, this period of supervision may take the form of on the job training, following which a formal assessment of competence is conducted.

#### **Stage 4: Competence**

A person may be considered competent once they have completed all necessary induction training and has been assessed either by their supervisor, or by formal assessment on completion of on the job training.

## 10.2 MARINE TRAINING

Training is a key element within the SMS. In order to ensure that personnel are properly trained, the above principles of job analysis and training design shall be followed. In particular, the Harbour Master will:

- Identify operational and safety training needs
- Plan how training requirements are to be met and when
- Ensure that staff are suitably qualified and trained to carry out allocated tasks

## 10.3 SAFETY MANAGEMENT TRAINING

It is intended that all marine staff shall attend a Safety Management System induction briefing. The topics to be covered shall include:

- Overview of relevant Bylaws
- Harbour Master's Directions
- Review of the Navigational Safety Policy
- Outline of management and operating procedures and their provisions
- Principles of individual accountability and responsibility
- Formal and informal procedural controls in place
- Outline of response to emergencies and contingencies
- Health and safety

## 10.4 TRAINING AND COMPETENCE RECORDS

All training and instruction provided to Harbours Department Staff will be duly recorded and retained.

## 10.5 PERFORMANCE MEASURES

The Council's performance-monitoring programme is designed to monitor and progressively improve navigational safety where found necessary. The following measures are used to monitor navigational safety and the Harbour Department's performance:

### **1. Facilitating the safety of navigation within Wellington Harbour**

- Number of safety incidents
- Number of formal warnings issued
- Number of HM Infringement Notices issued
- Non-availability of key LPS equipment

### **2. Non-availability of navigation lights, beacons and buoys**

- Non-availability of any Council aids to navigation

- Non-availability of a suitable patrol vessel

### **3. Respecting the Environment of Wellington Harbour**

- Total number of reported pollution incidents
- Number of attributable pollution incidents, including safety incidents
- Number of infringements initiated

## **10.6 COMPLIANCE MONITORING**

The day-to-day monitoring of navigational safety management controls and provisions is measured and checked through departmental monitoring regimes using the criteria laid out in **Section 10.5**.

Evaluation of the level of compliance is achieved through:

- Proactive systems that monitor performance in relation to objectives and operating standards
- Reactive systems, which investigate incidents and unwanted events
- Reactive monitoring

### **10.6.1 Incident Reporting and Investigation**

GWRC wishes to create an environment within which all navigational incidents are reported. The Bylaws require that a master provides reports should his vessel be involved in certain incidents. However, masters and pilots are encouraged to report all incidents and near misses as analysis of such events can produce risk control measures which will help reduce the likelihood of a serious accident or incident occurring.

The Harbour Master is responsible for the investigation of navigational incidents, both from the SMS perspective (i.e. the cause/circumstance of the incident) and in the regulatory sense (whether there has been a breach of Council or other regulations).

Where circumstances warrant, Maritime New Zealand or the Transport Accident Investigation Commission may become the lead investigation agency. In such cases, the Harbours Department will take a provisional view of any failings of the SMS and act upon them. A full appraisal of the final outcome of any external investigation (following the publication of any reports or the conclusion of any investigation, inquiry or prosecution) will subsequently be undertaken and any remaining issues considered at that time.

## **10.6.2 Definitions**

### **10.6.2.1 Accident**

In relation to the SMS an accident is an occurrence involving a ship and in which:

- A person is seriously harmed i.e. suffering death, permanent loss of bodily function or temporary severe loss of bodily function
- A ship sustains structural damage or suffers machinery failure that affects the seaworthiness of the ship
- There is loss, damage or movement of cargo that poses a risk to the ship
- There is significant loss or damage to property, other than cargo
- There has been loss or escape of any substance which could result in serious harm to a person or damage to the ship
- A person is lost at sea (whether or not subsequently found)
- The ship is foundering, capsizing, being abandoned, stranded, been involved in a collision or has had a major fire on board

### **10.6.2.2 Incident**

An incident means an unplanned event, other than an accident, which causes, or is liable to cause, an undesirable outcome.

The above definition encompasses:

- Injury to one or more persons
- Damage to property (i.e. vessel, port infrastructure or aid to navigation)
- Damage to the environment
- Damage to port business (i.e. financial loss or damage to Greater Wellington Regional Council or CentrePort's reputation)
- Non-compliance with a statute or regulation

### **10.6.2.3 Near Miss**

Note that the inclusion of the words 'liable to cause' will bring most "near misses" within the definition of incident for the purposes of the SMS. A near miss can be described as a narrowly avoided accident.

Examples of near misses to be considered include:

- Situations where a vessel or craft needs to take unconventional avoiding action
- A vessel passing another so close as to create a risk of collision or interaction
- A vessel passing so close to shoal water as to create a risk of grounding
- A vessel or craft passing so close to a structure as to create a risk of contact

## **ANNEX A**

### **Key Hazards**

**Note:** An additional hazard has been identified since the original Risk Assessment was completed in 2005. The hazard list and safety plans within this SMS document now reflect this hazard, ranked at 22 with a reference number of 79.



Rank No.	Hazard Reference	Hazard Description	Risk Overall	Risk By Consequence Category							
				M L				W C			
				People	Property	Environment	Stakeholders	People	Property	Environment	Stakeholders
1	5	Ferry grounding at the harbour entrance	6.81	6	0	0	9	7	7	7	7
2	21	Two ferries in developing collision situation during an overtaking or passing manoeuvre near alter-course waypoints.	5.75	0	0	0	7	7	7	6	7
3	18	Passenger ferry and large vessel in developing collision situation, wider angle of approach.	5.75	0	0	0	7	7	7	6	7
4	20	Inbound passenger ferry in developing collision situation with outbound container or large vessel (or tanker departing Evans Bay by night).	5.68	0	0	0	7	7	6	6	7
5	54	A vessel with high windage breaks mooring lines in high offshore winds (other than a vessel berthed at a finger berth).	5.61	0	6	0	0	7	8	3	7
6	46	Ferry berthing without tug assistance in adverse weather in heavy contact with berth or adjacent vessel.	5.59	0	6	0	6	6	7	3	7
7	27	Yacht engaged in racing and ferry or large vessel in developing collision situation.	5.29	0	0	0	6	8	6	0	7
8	1	Inbound large vessel (> 500GT) in grounding situation in adverse southerly conditions through operational failure.	5.28	0	0	0	6	6	7	7	7
9	44	Ferry berthing at Rail Ferry Terminal (RFT) in heavy contact with berth or adjacent vessel.	5.28	0	6	0	6	6	6	0	7
10	59	Leisure craft founders in the harbour.	5.22	6	0	0	6	7	3	0	7
11	15	Ferry and deep draught ship in developing collision situation between the Pinnacles and Falcon Shoals.	5.05	0	0	0	6	6	6	4	7

Rank No.	Hazard Reference	Hazard Description	Risk Overall	Risk By Consequence Category							
				M L				W C			
				People	Property	Environment	Stakeholders	People	Property	Environment	Stakeholders
12	63	Lines crew injured due to a mooring line accident.	4.85	0	6	0	0	7	3	0	7
13	76	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance	4.81	0	2	0	6	3	6	6	6
14	28	Inbound vessel or ferry in developing collision situation with tanker outbound from Seaview.	4.68	0	0	0	4	6	6	6	7
15	70	RoRo ferry has shipboard fire while transiting the approaches or entrance.	4.65	3	0	0	3	7	7	4	7
16	74	Leisure craft in potential collision situation with commercial vessel swinging or transiting Lambton Harbour.	4.63	0	0	0	6	7	0	0	7
17	47	Large vessel such cruise vessel, car carrier, container or general cargo ship in contact berthing with wharf or container cranes in restricted visibility, strong onshore winds, berthing in very strong wind conditions.	4.63	0	6	0	0	4	6	4	6
18	67	Fire on board a harbour ferry or passenger carrying charter vessel.	4.61	3	3	0	3	7	6	2	6
19	16	Ferry and leisure craft in developing collision situation.	4.56	0	0	0	6	7	2	0	6
20	45	A vessel manoeuvring in the vicinity of a Tanker working cargo (discharging or back loading gas oil) or a vessel bunkering, contacts or interacts with the vessel alongside. This includes the same event involving a large cruise liner at Aotea Quay.	4.52	0	0	0	3	6	6	6	7
21	52	Laid up fishing vessel parts mooring lines in heavy northerly gale.	4.51	0	6	0	0	6	3	3	6
22	79	Deep draught vessel (e.g. Tanker, Container ship or Bulk Carrier) in potential bounce grounding on isolated rock danger on or near line of leads, whilst transiting harbour entrance.	4.49	0	3	0	7	0	3	3	5

Rank No.	Hazard Reference	Hazard Description	Risk Overall	Risk By Consequence Category							
				M L				W C			
				People	Property	Environment	Stakeholders	People	Property	Environment	Stakeholders
23	53	Vessel or ferry breaks lines or is unable to berth at no.3 berth, due to strong offshore south-westerly or broad north-westerly wind.	4.43	0	3	0	3	7	3	3	6
24	61	Rowing skiff or dragon boat swamped or capsizes in Lambton Harbour. Hazard relates to organised events and associated practice activities.	4.38	3	0	0	3	8	0	0	7
25	2	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	4.3	0	0	0	3	7	6	4	6
26	78	Tanker in contact berthing situation at Seaview Wharf	4.3	0	3	0	0	4	7	6	6
27	9	Charter fishing vessel in grounding situation e.g. Chaffers Passage.	4.3	3	3	0	0	7	4	2	6
28	17	Ferry or large vessel and fishing vessel in developing collision situation on approach to or within harbour.	4.3	0	0	0	3	7	6	4	6
29	49	Harbour ferry in contact berthing situation at any berth.	4.29	0	6	0	0	6	3	0	6
30	48	Vessel at container berth in contact berthing with container cranes during departure.	4.24	0	3	0	0	6	7	2	7
31	60	Recreational fishing craft swamped or capsized by wash of passing large vessel.	4.22	6	0	0	0	6	2	0	6
32	57	Fishing vessel founders at harbour entrance in adverse southerly conditions.	4.17	3	0	0	0	7	6	2	6

## **ANNEX B**

### **Harbour Safety Plan – Long Term**

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
RCM 1	Obtain support and buy in from key stakeholders for the development of modified harbour management and control processes.	1-79	This Control measure is pivotal in the mitigation of all risks for this plan. The support of key local Government, commercial and recreational stakeholders is imperative in order for effective measures to be established.	1-79	a) Obtain approval from Council for the new Safety Management System and policies.	March 2007	Completed	To be effective all RCMs will require engagement with Harbour stakeholders at some level.
					b) Develop RCM implementation plan with CentrePort in respect to areas related to both commercial operations and for other areas of the harbour in which CentrePort is involved.	March 2007	On-going	
					c) Obtain written commitment from CentrePort to support critical SMS initiatives in which they have a role.	May 2007	Completed	
					d) Inform and advise other stakeholders of significant planned actions and their time frame.	May 2007	On-going	
RCM 1a	Have in place sufficient, sustained revenue to deliver the Risk Control Measures.	1-79	Adequacy of finance directly affects all of the intended RCMs and as such is integral in the mitigation of all risks.	1-79	a) Have sufficient capital funding to maintain the required equipment and technology.	March 2007	Completed	All RCMs in some way influenced by the adequacy and sustainability of funding.
					b) Access sufficient sustained operational funding so as to allow high quality harbour co-ordination and management services to be maintained.	April 2007	On-going	
					c) Establish modified budgets and financial plan to cover ten year period.	April 2007	On-going	
RCM 1b	Maintain a Bylaws structure within the Greater Wellington Regional Council that facilitates on-going safety management under the Port and Harbour Marine Safety Code.	1-79	Directions and Bylaws have the ability to impact on all of the RCMs and as such are integral in the mitigation of all risks.	1-79	a) Review the ability of the Bylaws to reflect navigational safety requirements.	On-going	On-going	All RCMs in some way influenced by the ability to implement directions to users.
RCM 2	Institute changes to specific Aids to Navigation in order to provide greater visibility, improve vessel management or reduce confusion or conflict with other lights.	1	Ferry in grounding at the harbour entrance.	5	a) Evaluate the desirability of realigning the green sector of the Rear Lead so that vessels pass no closer than 3 cables off Point Halswell, Kau Point and Point Gordon.	December 2006	December 2011	
		2	Two ferries in developing collision situation during an overtaking or passing manoeuvre near alter-course waypoints.	21	b) Conduct a cost/benefit analysis of improving the profile of the Front Lead Light by installing an AIS virtual buoy or other suitable aid to navigation.	September 2007	December 2011	
		3	Passenger ferry and large vessel in developing collision situation, wider angle of approach.	18				
		4	Inbound passenger ferry in developing collision situation with outbound container or large vessel (or tanker departing Evans Bay by night).	20				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		7	Ferry or large vessel and fishing vessel in developing collision situation on approach to or within harbour.	17				
		12	Ferry and deep draught ship in developing collision situation between the Pinnacles and Falcon Shoals.	15				
		14	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance.	76				
		26	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	2				
		32	Outbound ferry or other large vessel in developing collision situation with inbound fishing vessel on rounding Kau Point or other headland.	22				
		34	Harbour ferry in developing collision situation with another larger ferry or other larger vessel transiting harbour.	23				
		70	Fishing vessel in contact with navigational beacon.	38				
		71	Small commercial, fishing or passenger vessel in collision situation with similar vessel navigating in opposite direction.	30				
RCM 3	Make specific changes to information, symbols and routes shown currently on local charts in order to clarify permitted activity in specific areas.	1	Ferry in grounding at the harbour entrance.	5	a) Identify areas requiring limitations to be put in place, particularly areas currently showing as being allowed for anchoring, such as the explosives anchorage, where anchored vessels may impinge safe movement of other vessels (or vice versa).	May 2007	On-going	
		14	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance.	76	b) Work with LINZ, UKHO and harbour users to promulgate information.	May 2008	On-going	
		26	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	2				
		28	Charter fishing vessel in grounding situation e.g. Chaffers Passage.	9				
		41	Tanker with high freeboard in grounding situation in Evans Bay.	11				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		49	Tug under 500GT with large tow and no local assistance grounds tow during transit (inwards or outwards).	6				
		74	Leisure craft in grounding situation along the south coast for example at Island Bay, Barrett Reef, West Ledge or Chaffers Passage.	4				
		75	Leisure craft grounds within an inner harbour area.	13				
RCM 3a	Maintain up to date bathymetric and hydrographic information on maritime areas within the region.	1-79	Same as RCM 3.	1-79	a) Monitor that hydrographic surveyors who undertake surveys in GWRC waters comply with the guidelines set out in "Guidelines of Good Practice for Hydrographic Survey in New Zealand Ports and Harbours".	March 2007	On-going	
					b) Ensure that the results of any hydrographic survey are promulgated to port users and LINZ.	March 2007	On-going	
					c) Monitor that CentrePort determines the timing and frequency of soundings as deemed necessary.	May 2007	On-going	
RCM 4	Further develop the harbours existing vessel monitoring and information services to provide a sustained quality of service consistent with IALA VTS standards.	1	Ferry in grounding at the harbour entrance.	5	a) Align Wellington Harbour Radio operating procedures so that they reflect CentrePort SOPs particularly those related to pilotage.	March 2008	Completed	
		2	Two ferries in developing collision situation during an overtaking or passing manoeuvre near alter-course waypoints.	21	b) Identify the specific current and projected responsibilities and skills required by Wellington Harbour Radio staff in order for them to provide appropriate vessel traffic information.	September 2007	On-going	
		3	Passenger ferry and large vessel in developing collision situation, wider angle of approach.	18	c) Establish a training process to ensure staff meet the required standards and provide the agreed service.	March 2008	December 2011	
		4	Inbound passenger ferry in developing collision situation with outbound container or large vessel (or tanker departing Evans Bay by night).	20	d) Provide sufficient competent staffing to maintain a 24/7 service, including cover for sickness and leave.	June 2007	On-going	
		7	Ferry or large vessel and fishing vessel in developing collision situation on approach to or within harbour.	17	e) Complete an analysis and technical plan of the radar, CCTV and supporting infrastructure required to maintain constant 24/7 monitoring of the main harbour and Lambton Harbour from Wellington Harbour Radio.	March 2007	June 2012	
		8	Yacht engaged in racing and ferry or large vessel in developing collision situation.	27	f) Establish sufficient technical infrastructure to allow remote monitoring equipment to be linked to Wellington Harbour Radio.	February 2008	November 2011	

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		9	Inbound large vessel (> 500GT) in grounding situation in adverse southerly conditions through operational failure.	1	g) Set up sufficient radar equipment allow Wellington Harbour Radio to maintain a sustained radar picture of all activity within the main harbour, Lambton Harbour and Evans Bay.	March 2008	To follow analysis	
		11	Leisure craft founders in the harbour.	59	h) Install CCTV that is linked to monitoring equipment at Wellington Harbour Radio providing visual cover of vessel activity within the Lambton Harbour area.	March 2008	To follow analysis	
		12	Ferry and deep draught ship in developing collision situation between the Pinnacles and Falcon Shoals.	15	i) Install CCTV that is linked to monitoring equipment at Wellington Harbour Radio and will provide visual cover of vessel activity within the main harbour area.	March 2008	To follow analysis	
		14	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance.	76	j) Complete a technology plan for the provision of infrastructure and software to allow Wellington Harbour Radio to install chart and monitoring software, with sufficient capability to interface with AIS and radar equipment while allowing Wellington Harbour Radio operators to monitor vessel movements within the region.	February 2007	Completed	
		15	Inbound vessel or ferry in developing collision situation with tanker outbound from Seaview.	28	k) Install LPS monitoring software and technology that integrates with AIS equipment and allows data integration onto the charts.	March 2008	Completed	
		17	Leisure craft in potential collision situation with commercial vessel swinging or transiting Lambton Harbour.	74	l) Install LPS monitoring software and technology that integrates with radar equipment and allows data integration onto the charts.	March 2008	Completed	
		20	Ferry and leisure craft in developing collision situation.	16	m) Set up and activate guard alarm mode for anchored vessels.	June 2008	September 2011	
		26	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	2	n) Implement SOPs for Wellington Harbour Radio related to the management of vessels boarding or disembarking pilots at the charted boarding stations.	January 2008	Completed	
		28	Charter fishing vessel in grounding situation e.g. Chaffers Passage.	9	o) Monitor standard of service on a continuing basis.	June 2007	On-going	
		32	Outbound ferry or other large vessel in developing collision situation with inbound fishing vessel on rounding Kau Point or other headland.	22	p) Ensure that there is an on-going review of Wellington Harbour Radio processes to maintain continuity of high quality service.	June 2007	On-going	
		33	Fishing vessel founders at harbour entrance in adverse southerly conditions.	57	q) Define criteria and SOPs for Wellington Harbour Radio operators to be able to assist the pilot to guide vessels to Delta boarding area.	March 2007	Completed	
		34	Harbour ferry in developing collision	23				



Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
			situation with another larger ferry or other larger vessel transiting harbour.		r) Establish procedures for Wellington Harbour Radio to record and monitor PEC currency.	March 2007	Completed	
		35	Rowing skiff in potential collision situation with power driven vessel in Lambton Harbour.	34				
		39	A vessel makes contact with a vessel either at the explosives anchorage or in the inner anchorage.	41	s) Ensure that CentrePort, as pilotage provider, has specific SOP(s) – 4.76 relating to the transit of vessels constrained by their draft, such SOP(s) are to include the requirement for the pilot to inform Wellington Harbour Radio when it is so constrained.	September 2007	September 2011	
		41	Tanker with high freeboard in grounding situation in Evans Bay.	11	t) Have a procedure in place which requires Wellington Harbour Radio to inform harbour users of the transit of vessels constrained by their draught.	June 2007	September 2011	
		42	Container ship or other vessel in grounding situation through dragging anchor.	14				
		43	Ferry or other larger vessel in developing collision situation with naval vessel (especially on rounding Kau Point).	24				
		44	Inshore fishing vessel in grounding situation in harbour approaches (including Island Bay and Chaffers Passage).	3				
		45	Small commercial, fishing or passenger vessel in collision situation with ferry or other large vessel sailing or approaching the berth.	33				
		46	Pilot vessel in potential capsize situation in heavy seas at the harbour entrance.	58				
		48	Leisure craft and small commercial vessel in developing collision situation in any harbour area.	77				
		49	Tug under 500GT with large tow and no local assistance grounds tow during transit (inwards or outwards).	6				
		50	Leisure craft and large ship in developing collision situation (over 500GT).	26				
		51	Leisure craft in conflict in high leisure use area.	31				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		52	Light draught or high windage vessel is overwhelmed by conditions just after leaving port (and within port limits).	7				
		59	Small harbour ferry or other commercial vessel in potential collision situation with leisure craft in approaches to Days Bay wharf.	73				
		60	Kayak in collision with vessel sailing from a commercial wharf area.	32				
		61	Power driven leisure craft and kayaker in developing collision other than Lambton Harbour.	25				
		62	Windsurfer and other vessel or craft in developing collision situation in Evans Bay.	37				
		64	Leisure craft and water-skier or Personal Water Craft in developing collision situation, i.e. in Oriental Bay or Kau Bay, near or in the water-ski lane.	35				
		65	Large vessel transiting area between the Pinnacles and Falcon Shoals.	72				
		66	Pilot launch in collision with large vessel while approaching to embark disembark pilot.	19				
		67	Light draught or high windage vessel is unable to safely manoeuvre.	10				
		68	Waka and leisure craft in developing collision situation.	36				
		70	Fishing vessel in contact with navigational beacon.	38				
		71	Harbour passenger vessel in grounding situation on passage or near berth.	12				
		72	Tug has contact and a collision with a vessel being assisted to berth or sail.	29				
		73	Small commercial, fishing or passenger vessel in collision situation with similar vessel navigating in opposite direction.	30				
		74	Leisure craft in grounding situation along the south coast for example at Island Bay, Barrett Reef, West Ledge or Chaffers Passage.	4				
		75	Leisure craft grounds within an inner harbour area.	13				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
RCM 5	Remodel pilotage processes and practice in line with Maritime Rules Part 90 so as to maintain a high standard of safe passage for vessels transiting to and from the harbour while protecting all individuals and resources connected with the process.	1	Ferry in grounding at the harbour entrance.	5	a) Ensure that CentrePort, as pilotage provider, has considered critical hazards and possible effects of wind, sea and swell when developing SOP's in relation to the embarking and disembarking of pilots – both in respect to the position and the process.	March 2007	Completed	
		3	Passenger ferry and large vessel in developing collision situation, wider angle of approach.	18	b) Identify and document the interface between pilotage and Wellington Harbour Radio functions and promulgate the relevant CentrePort SOPs in line with the service agreement.	March 2008	December 2011	
		4	Inbound passenger ferry in developing collision situation with outbound container or large vessel (or tanker departing Evans Bay by night).	20	c) Establish in consultation with CentrePort limiting environmental criteria for vessels to be able to safely proceed to Delta area for pilot boarding	March 2007	Completed	
		9	Inbound large vessel (> 500GT) in grounding situation in adverse southerly conditions through operational failure.	1	d) Monitor that CentrePort as pilotage provider, and Wellington Harbour Radio have a common understanding of the minimum communication requirements expected between pilot and Wellington Harbour Radio during a ship movement. These requirements will be reflected in SOPs	March 2007	On-going	
		12	Ferry and deep draught ship in developing collision situation between the Pinnacles and Falcon Shoals.	15	e) Ensure in co-operation with CentrePort that AIS transponders are fitted to pilot vessels and other significant harbour support vessels in order to facilitate their easy identification and monitoring by transmitting vessels and Wellington Harbour Radio.	June 2007	Completed	
		14	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance.	76				
		15	Inbound vessel or ferry in developing collision situation with tanker outbound from Seaview.	28				
		26	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	2				
		28	Charter fishing vessel in grounding situation e.g. Chaffers Passage.	9				
		32	Outbound ferry or other large vessel in developing collision situation with inbound fishing vessel on rounding Kau Point or other headland.	22				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		34	Harbour ferry in developing collision situation with another larger ferry or other larger vessel transiting harbour.	23				
		35	Rowing skiff in potential collision situation with power driven vessel in Lambton Harbour.	34				
		41	Tanker with high freeboard in grounding situation in Evans Bay.	11				
		42	Container ship or other vessel in grounding situation through dragging anchor.	14				
		43	Ferry or other larger vessel in developing collision situation with naval vessel (especially on rounding Kau Point).	24				
		44	Inshore fishing vessel in grounding situation in harbour approaches (including Island Bay and Chaffers Passage).	3				
		45	Small commercial, fishing or passenger vessel in collision situation with ferry or other large vessel sailing or approaching the berth.	33				
		46	Pilot vessel in potential capsize situation in heavy seas at the harbour entrance.	58				
		48	Leisure craft and small commercial vessel in developing collision situation in any harbour area.	77				
		49	Tug under 500GT with large tow and no local assistance grounds tow during transit (inwards or outwards).	6				
		50	Leisure craft and large ship in developing collision situation (over 500GT).	26				
		52	Light draught or high windage vessel is overwhelmed by conditions just after leaving port (and within port limits).	7				
		67	Light draught or high windage vessel is unable to safely manoeuvre.	10				
RCM 6	Monitor the adequacy of tugs available to enable the safe movement and management of vessels entering the harbour area.	35	Rowing skiff in potential collision situation with power driven vessel in Lambton Harbour.	34	a) Monitor that CentrePort has an asset plan in place for the replacement or purchase of new tugs with a bollard pull, determined by Risk Assessment or simulation, appropriate for current or expected shipping requirements.	February 2007	On-going	

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		41	Tanker with high freeboard in grounding situation in Evans Bay.	11	b) Monitor that CentrePort has a training plan and training manuals for tug crews.	December 2007	August 2011	
		42	Container ship or other vessel in grounding situation through dragging anchor.	14	c) Monitor that CentrePort reviews and updates where necessary, the tug use guidelines (CP SOP 4.45) whenever there is a change in tug configuration.	February 2008	Complete but under on-going review	
		43	Ferry or other larger vessel in developing collision situation with naval vessel (especially on rounding Kau Point).	24				
		44	Inshore fishing vessel in grounding situation in harbour approaches (including Island Bay and Chaffers Passage).	3	d) In consultation with CentrePort, keep under review the need for the use of escort tugs for tanker movements within the harbour.	June 2007	On-going	
		45	Small commercial, fishing or passenger vessel in collision situation with ferry or other large vessel sailing or approaching the berth.	33	e) In consultation with CentrePort, keep under review the need for the provision of a tug with fire fighting capabilities to be available at short notice when a tanker carrying volatile product is in port.	June 2007	On-going	
		46	Pilot vessel in potential capsize situation in heavy seas at the harbour entrance.	58				
		48	Leisure craft and small commercial vessel in developing collision situation in any harbour area.	77				
		49	Tug under 500GT with large tow and no local assistance grounds tow during transit (inwards or outwards).	6				
		25	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	2				
		26	Tanker in contact berthing situation at Seaview Wharf	2				
		30	Vessel at Container berth in contact berthing with container cranes during departure or berthing	48				
		36	Fire on tanker alongside or at anchor	69				
		40	Tanker in contact berthing at Burnham Wharf	43				
		41	Tanker with high freeboard in grounding situation in Evans Bay.	11				
		42	Container ship or other vessel in grounding situation through dragging anchor.	14				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		49	Tug under 500GT with large tow and no local assistance grounds tow during transit (inwards or outwards).	6				
		50	Leisure craft and large ship in developing collision situation (over 500GT).	26				
		52	Light draught or high windage vessel is overwhelmed by conditions just after leaving port (and within port limits).	7				
		53	Tanker contact berthing - Aotea Quay	51				
		55	Fire aboard vessel alongside wharf carrying out maintenance involving hot work	68				
		56	Container ship with all gear swung outboard and crane/s over vessel, contacted by vessel manoeuvring in vicinity.	42				
		67	Light draught or high windage vessel is unable to safely manoeuvre.	10				
RCM 7	Monitor berthing procedures and practise to ensure that they are appropriate to maintain safe management of all berthing vessels and protect all people and assets involved.	6	Ferry berthing without tug assistance in adverse weather in heavy contact with berth or adjacent vessel.	46	a) Establish close cooperation with CentrePort with a view that wharves are maintained fit for purpose.	June 2007	On-going	
		10	Ferry berthing at Rail Ferry Terminal (RFT) in heavy contact with berth or adjacent vessel.	44	b) Monitor that CentrePort maintains a record of the displacement capacity and when required, the maximum length of vessel, approved to berth at each of the commercial wharves.	June 2007	On-going	
		29	Harbour ferry in contact berthing situation at any berth.	49	c) Monitor that CentrePort has prescribed the management of the berthing process for commercial berths as determined by vessel size, berth limitation, vessel configuration or any known constraint.	May 2007	On-going	
		40	Tanker in contact berthing at Burnham Wharf.	43	d) Monitor that CentrePort provides operational fendering at CentrePort's commercial berths which is appropriate to the expected loadings.	June 2007	On-going	

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		47	Low freeboard container vessel gets caught under berth fenders as tide rises at TCW1. Vessel suddenly comes free, causing sudden rolling of vessel. List resulting if loading had continued on one side whilst vessel trapped. Damage to container crane/s likely.	50	e) Review long-term harbour development planning and identify probable constraints on current and future safe harbour operations created by the need to have in place safe berthing parameters.	June 2007	On-going	
		52	Tanker in contact berthing at Aotea Quay.	51				
RCM 8	Have in place instrumentation to monitor environmental factors in areas where there is a significant hazard due to the frequency and type of maritime use it receives.	1	Ferry in grounding at the harbour entrance.	5	a) Ensure that monitoring equipment is established at key points in the harbour which will provide an overview of the wind climate and direction at these points. Such information is to be made available to Wellington Harbour Radio, and by later development, to the public domain, by the most appropriate means.	December 2007	Completed	
		5	A vessel with high windage breaks mooring lines in high offshore winds (other than a vessel berthed at a finger berth).	54	b) Establish a monitoring station at the Front Lead which will record swell and tide heights and sea level barometric pressure at Burnham Wharf. Link the information collected to Wellington Harbour Radio LPS.	January 2007	Completed	
		6	Ferry berthing without tug assistance in adverse weather in heavy contact with berth or adjacent vessel.	46	c) In co-operation with CentrePort, undertake an exercise which will correlate wave and swell information from monitoring sites at the Front Lead and Baring Head wave rider buoy under different weather conditions to determine wave and swell conditions likely to be expected at the entrance; to enable subjective estimates of the wave/swell conditions in this area during the hours of darkness, or poor visibility.	January 2008	On-going	
		9	Inbound large vessel (> 500GT) in grounding situation in adverse southerly conditions through operational failure.	1				
		10	Ferry berthing at Rail Ferry Terminal (RFT) in heavy contact with berth or adjacent vessel.	44				
		14	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance.	76				
		22	Deep draft vessel bounce grounds on isolated 12.8m rock shoal on the leads at the harbour entrance in heavy swell conditions.	79				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		18	Large vessel such cruise vessel, car carrier, container or general cargo ship in contact berthing with wharf or container cranes in restricted visibility, strong onshore winds, berthing in very strong wind conditions.	47				
		21	A vessel manoeuvring in the vicinity of a Tanker working cargo (discharging or back loading gas oil), or a vessel bunkering, contacts or interacts with the vessel alongside. This includes the same event involving a large cruise liner at Aotea Quay.	45				
		23	Laid up fishing vessel parts mooring lines in heavy northerly gale.	52				
		24	Vessel or ferry breaks lines or is unable to berth at no.3 berth, due to strong offshore south-westerly or broad north-westerly wind.	53				
		26	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	2				
		27	Tanker in contact berthing situation at Seaview Wharf.	78				
		28	Charter fishing vessel in grounding situation egg. Chaffers Passage.	9				
		29	Harbour ferry in contact berthing situation at any berth.	49				
		30	Vessel at container berth in contact berthing with container cranes during departure.	48				
		33	Fishing vessel founders at harbour entrance in adverse southerly conditions.	57				
		40	Tanker in contact berthing at Burnham Wharf.	43				
		41	Tanker with high freeboard in grounding situation in Evans Bay.	11				
		42	Container ship or other vessel in grounding situation through dragging anchor.	14				
		44	Inshore fishing vessel in grounding situation in harbour approaches (including Island Bay and Chaffers Passage).	3				



Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		46	Pilot vessel in potential capsize situation in heavy seas at the harbour entrance.	58				
		49	Tug under 500GT with large tow and no local assistance grounds tow during transit (inwards or outwards).	6				
		52	Light draught or high windage vessel is overwhelmed by conditions just after leaving port (and within port limits).	7				
		53	Tanker in contact berthing at Aotea Quay.	51				
		56	Container ship with all gear swung outboard and crane/s over vessel, contacted by vessel manoeuvring in vicinity.	42				
		67	Light draught or high windage vessel is unable to safely manoeuvre.	10				
		71	Harbour passenger vessel in grounding situation on passage or near berth.	12				
RCM 9	Formalise specific SOPs that currently may create risk due to their ambiguity or lack of specific definition.	1	Ferry in grounding at the harbour entrance.	5	a) Monitor company guidelines on the passage of ferries and other vessels through the harbour entrance when waves are greater than a specific height or displaying particular characteristics.	May 2007	On-going	
		14	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance.	76	b) Establish maximum continuous wind speed parameters for tankers berthing at Burnham Wharf.	February 2007	Completed	
		41	Tanker with high freeboard in grounding situation in Evans Bay.	11				
		52	Light draught or high windage vessel is overwhelmed by conditions just after leaving port (and within port limits).	7				
		67	Light draught or high windage vessel is unable to safely manoeuvre.	10				
RCM 10	Establish specific vessel transit tracks which are clearly identified and known and that are enforced within local Bylaws.	1	Ferry in grounding at the harbour entrance.	5	a) Define and document recommended transit tracks for vessels shifting berth, entering and leaving the harbour.	January 2007	Completed	
		2	Two ferries in developing collision situation during an overtaking or passing manoeuvre near alter-course waypoints.	21	b) Identify and prepare Bylaws required to establish and enforce transit tracks.	April 2007	Completed	

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		3	Passenger ferry and large vessel in developing collision situation, wider angle of approach.	18	c) Enact appropriate supporting Bylaws.  d) Publish and promulgate tracks to all harbour users, LINZ, UKHO and other appropriate maritime publication bodies.	September 2008	Completed	
		4	Inbound passenger ferry in developing collision situation with outbound container or large vessel (or tanker departing Evans Bay by night).	20		March 2007	Completed	
		7	Ferry or large vessel and fishing vessel in developing collision situation on approach to or within harbour.	17				
		8	Yacht engaged in racing and ferry or large vessel in developing collision situation.	27				
		9	Inbound large vessel (> 500GT) in grounding situation in adverse southerly conditions through operational failure.	1				
		12	Ferry and deep draught ship in developing collision situation between the Pinnacles and Falcon Shoals.	15				
		14	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance.	76				
		15	Inbound vessel or ferry in developing collision situation with tanker outbound from Seaview.	28				
		20	Ferry and leisure craft in developing collision situation.	16				
		26	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	2				
		32	Outbound ferry or other large vessel in developing collision situation with inbound fishing vessel on rounding Kau Point or other headland.	22				
		34	Harbour ferry in developing collision situation with another larger ferry or other larger vessel transiting harbour.	23				
		43	Ferry or other larger vessel in developing collision situation with naval vessel (especially on rounding Kau Point).	24				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		45	Small commercial, fishing or passenger vessel in collision situation with ferry or other large vessel sailing or approaching the berth.	33				
		48	Leisure craft and small commercial vessel in developing collision situation in any harbour area.	77				
		49	Tug under 500GT with large tow and no local assistance grounds tow during transit (inwards or outwards).	6				
		50	Leisure craft and large ship in developing collision situation (over 500GT).	26				
		70	Fishing vessel in contact with navigational beacon.	38				
RCM12	Establish and enforce radio reporting procedures for vessels entering and transiting the area that require full disclosure of passage expectations and risks, defects or limitations that may affect their transit.	1	Ferry in grounding at the harbour entrance.	5	a) Identify best practise for reports from vessels transiting the harbour area. Document and implement reporting procedures and draft associated Bylaws.	June 2008	Completed	
		2	Two ferries in developing collision situation during an overtaking or passing manoeuvre near alter-course waypoints.	21	b) Ratify Bylaws through the Council; promulgate these to all harbour users.	June 2008	Completed	
		4	Inbound passenger ferry in developing collision situation with outbound container or large vessel (or tanker departing Evans Bay by night).	20	c) Establish procedures within Wellington Harbour Radio LPS to manage and control vessel reports and document resultant actions.	January 2008	Completed	
		7	Ferry or large vessel and fishing vessel in developing collision situation on approach to or within harbour.	17	d) Have in place protocols for responding to probable and potential defect reports from vessels that may be limited in their ability to negotiate the harbour have defects that may be a potential risk to their safe transit.	September 2007	Completed	
		9	Inbound large vessel (> 500GT) in grounding situation in adverse southerly conditions through operational failure.	1				
				12	Ferry and deep draught ship in developing collision situation between the Pinnacles and Falcon Shoals.	15		
		14	Deep draught vessel (e.g. Tanker) in potential grounding situation while transiting harbour entrance.	76				

Risk Control Measure	Objective	Key Hazards Mitigated			Milestone Tasks Required	Target Start Date	Target Completion Date	Dependencies
		Rank	Short Title	Ref				
		15	Inbound vessel or ferry in developing collision situation with tanker outbound from Seaview.	28				
		26	Foreign flagged fishing vessel of less than 500GT in grounding situation in the harbour approaches.	2				
		42	Container ship or other vessel in grounding situation through dragging anchor.	14				
RCM 13	Set parameters for deep draft vessels to safely operate around new isolated danger, submerged on the line of the Outer Leads.	22	Deep draft vessel bounce grounds on isolated 12.8m rock shoal on the leads at the harbour entrance in heavy swell conditions.	79	a) Assess potential risk created from rocks dropped in Outer Leads.  b) Set parameters for deep draft vessels transiting in proximity to the danger.  c) Promulgate parameters to harbour users.	May 2007  May 2007  May 2007	Completed Danger to deep draft vessels no longer exists	

## **ANNEX C**

### **Harbour Safety Plan - Annual**

Risk Control Measure	Aims	May 2011- June 2012 Specific Objectives	Planned completion date	Risks to achievement	Achieved Yes/No
RCM 1	Obtain support and buy in from key stakeholders for the development of modified harbour management and control processes.	a) Develop a RCM implementation plan with CentrePort in respect to areas related to both commercial operations and for other areas of the harbour in which CentrePort is involved.	On-going		
		b) Inform and advise other stakeholders of significant planned actions and the implementation time frame.	On-going		
		c) Report progress on all actions to appropriate GWRC Committees and individuals on a quarterly basis.	Every Quarter		
		d) Review the Annual Harbour Safety Plan at the end of the fourth quarter and identify actions and plan for the following twelve months, rolling over if necessary those matters which have not been completed.	4 <sup>th</sup> Quarter		
RCM 1a	Have in place sufficient, sustained revenue to deliver the Risk Control Measures	a) Access sufficient sustained operational funding so as to allow high quality harbour co-ordination and management services to be maintained.	On-going	GWRC budget constraints	
		b) Establish modified budgets and financial plan to cover ten year period.	On-going		
RCM 1b	Maintain a bylaws structure within the Greater Wellington Regional Council that facilitates on-going safety management under the Port and Harbour Marine Safety Code	a) Review the ability of the Navigational Safety Bylaws to reflect navigational safety requirements.	On-going	MNZ consensus Speed of general legislative process	
RCM 2	Institute changes to specific Aids to Navigation in order to provide greater visibility, improve vessel management or reduce confusion or conflict with other lights	a) Evaluate the desirability of realigning the green sector of the Rear Lead so that vessels pass no closer than 3 cables off Point Halswell, Kau Point and Point Gordon.	Dec 2011		
		b) Conduct a cost/benefit analysis of improving the profile of the Front Lead Light by installing an AIS virtual buoy or other suitable aid to navigation.	Dec 2011		
RCM 3	Make specific changes to information, symbols and routes shown currently on local charts in order to clarify permitted activity in specific areas	a) Identify areas possibly requiring limitations to be put in place, particularly areas currently showing as being allowed for anchoring, such as the explosives anchorage, where anchored vessels may impinge safe movement of other vessels, and consider the need for further mitigating action.	On-going		
		b) Work with LINZ, UKHO and harbour users to see information promulgated.	On-going		
RCM 3a	Maintain up to date bathymetric and hydrographic information on maritime areas within the region	a) Monitor that hydrographic surveyors who undertake surveys in GWRC waters comply with the guidelines set out in "Guidelines of Good Practice for Hydrographic Survey in New Zealand Ports and Harbours" and with CentrePort policy.	On-going		
		b) Ensure that the results of any hydrographic survey are promulgated to port users and LINZ.	On-going		
		c) Monitor that CentrePort determines the timing and frequency of soundings as deemed necessary.	On-going		
RCM 4	Further develop the harbours existing vessel monitoring and	a) Align Wellington Harbour Radio LPS operating procedures so that they align with CentrePort SOPs particularly those related to pilotage.	December 2011		

Risk Control Measure	Aims	May 2011- June 2012 Specific Objectives	Planned completion date	Risks to achievement	Achieved Yes/No
	information services to provide a sustained quality of service consistent with IALA VTS standards	b) Identify the specific current and projected responsibilities and skills required by Wellington Harbour Radio LPS staff in order for them to provide appropriate vessel traffic information.	On-going		
		c) Establish a training process to ensure staff meet the required standards and provide the agreed service.	December 2011		
		d) Provide sufficient competent staffing to maintain a 24/7 service, including cover for sickness and leave.	On-going	Lack of suitable candidates for posts	
		e) Complete an analysis and technical plan of the radar, CCTV and supporting infrastructure required to maintain constant 24/7 monitoring of the Main Harbour and Lambton Harbour from Wellington Harbour Radio Signal Station	June 2012		
		f) Establish sufficient technical infrastructure to allow remote monitoring equipment to be linked to Wellington Harbour Radio Signal Station	To follow analysis		
		g) Set up sufficient radar equipment allow Wellington Harbour Radio Signal Station to maintain a sustained RADAR picture of all activity within the Main Harbour, Lambton Harbour and Evans Bay.	To follow analysis	GWRC Wellington Harbour Radio upgrade budget constraints	
		h) Install CCTV that is linked to monitoring equipment at Wellington Harbour Radio Signal Station and will provide visual cover of vessel activity within the Lambton Harbour area.	To follow analysis	GWRC Wellington Harbour Radio upgrade budget constraints	
		i) Install CCTV that is linked to monitoring equipment at Wellington Harbour Radio Signal Station and will provide visual cover of vessel activity within the Main Harbour area.	To follow analysis	GWRC Wellington Harbour Radio upgrade budget constraints	
		j) Set up and activate guard alarm mode for anchored vessels	September 2011		
		k) Implement SOPs for Wellington Harbour Radio LPS operators related to the management of vessels boarding or disembarking pilots at chartered boarding stations.	Completed		
		l) Monitor standard of service on a continuing basis.	On-going		
		m) Ensure that there is an on-going review of LPS processes to maintain a continuity of high quality service.	On-going		
		n) Define criteria and SOPs for Wellington Harbour Radio to be able to assist the pilot to guide vessels to Delta boarding area.	Completed		
		o) Establish procedures for Wellington Harbour Radio LPS operators to record and monitor PEC currency.	Completed		
p) Ensure that CentrePort, as pilotage provider, has specific SOPs - 4.76 relating to the transit of vessels constrained by their draft, such SOPs are to include the requirement for the pilot to inform the LPS when it is so constrained.	September 2011				
q) Have a procedure in place which requires the LPS to inform harbour users of the transit of a vessel constrained by her draught	September 2011				
RCM 5	Remodel pilotage processes and	a) Identify and document the interface between pilotage and LPS functions and promulgate	Completed		

Risk Control Measure	Aims	May 2011- June 2012 Specific Objectives	Planned completion date	Risks to achievement	Achieved Yes/No
	practice in line with Maritime Rules Part 90 so as to maintain a high standard of safe passage for vessels transiting to and from the harbour while protecting all individuals and resources connected with the process.	the relevant CentrePort SOPs in line with the service agreement.			
		b) Monitor that CentrePort as pilotage provider, and Wellington Harbour Radio LPS have a common understanding of the minimum communication requirements expected between pilot and LPS during a ship movement. These requirements will be reflected in SOPs.	On-going		
RCM 6	Monitor that adequate tugs are available to enable the safe movement and management of vessels entering the harbour area	a) Monitor that CentrePort has an asset plan in place for the replacement or purchase of new tugs with a bollard pull, determined by Risk Assessment or simulation, appropriate for current or expected shipping requirements.	On-going	CentrePort budget constraints	
		b) Monitor that CentrePort has a training plan and training manuals for tug crews.	August 2011		
		c) Monitor that CentrePort reviews and updates where necessary, the tug use guidelines whenever there is a change in tug configuration.	On-going		
		d) In consultation with CentrePort, keep under review the need for the use of escort tugs for tanker movements within the harbour.	On-going		
		e) In consultation with CentrePort, keep under review the need for the provision of a tug with fire fighting capabilities to be available at short notice when a tanker carrying volatile product is in port.	On-going		
RCM 7	Maintain visibility of berthing procedures and practise to ensure that they are appropriate to maintain safe management of all berthing vessels and protect all people and assets involved	a) Monitor that CentrePort has a plan to identify the displacement capacity of all commercial wharves.	On-going		
		b) Monitor that CentrePort maintains a record of the displacement capacity and when required, the maximum length of vessel, approved to berth at each of the commercial wharves.	On-going		
		c) Monitor that CentrePort has prescribed the management of the berthing process for commercial berths as determined by vessel size, berth limitation, vessel configuration or any known constraint.	On-going		
		d) Monitor that CentrePort provides operational fendering at CentrePort's commercial berths that is appropriate to the expected loadings.	On-going		
		e) Review long-term harbour development planning and identify probable constraints on current and future safe harbour operations created by the need to have in place safe berthing parameters.	On-going		
RCM 8	Have in place instrumentation to monitor environmental factors in areas where there is a significant hazard due to the frequency and type of maritime use it receives	a) In co-operation with CentrePort, undertake an exercise which will correlate wave and swell information from monitoring sites at the Front Lead and Baring Head wave rider buoy under different wind conditions to determine wave and swell conditions likely to be expected at the entrance; to enable subjective estimates of the wave/swell conditions in this area during the hours of darkness, or poor visibility.	On-going	CentrePort Budget constraints	
RCM12	Establish and enforce radio reporting procedures for vessels entering and transiting the area	a) Establish procedures within Wellington Harbour Radio LPS to manage and control vessel reports and document resultant actions.	Completed		



Risk Control Measure	Aims	May 2011- June 2012 Specific Objectives	Planned completion date	Risks to achievement	Achieved Yes/No
	that require full disclosure of passage expectations and risks, defects or limitations that may effect their transit	b) Have in place protocols for responding to probable and potential defect reports from vessels that may be limited in their ability to negotiate the harbour or have defects that may be a potential risk to their safe transit.	Completed		