Introduction and Aim

1. The aim of this report is to demonstrate the Dockyard Port of Portsmouth’s (DyP) compliance with the Port Marine Safety Code whilst meeting the Ministry of Defence’s needs to maintain core operational outputs. 2016 was another extremely busy year for the Port and the Queen’s Harbour Master’s department which was characterised by significant change in preparation for the arrival of HMS Queen Elizabeth during which time the impact of extensive infrastructure works has been felt by most harbour users. The fact that this work took place against a background of busy programmes for all stakeholders and occurred with no major incidents is testament to the good cooperation of a wide variety of stakeholders; their assistance in achieving this aim is recognised with gratitude.

2016 Headlines

2. The year featured a number of headlines for the port some of which will roll into 2017 and beyond; in summary:

   a. Capital Dredge Progress. The capital dredge to produce a new Portsmouth Approach Channel and Berth Pocket for the Queen Elizabeth Class (QEC) carriers continued throughout 2016. On three occasions, items of unexploded ordnance were discovered which necessitated close cooperation with Hampshire Police and HM Coast Guard who ensured public safety while the Royal Navy’s Southern Diving Unit 2, acting for Joint Service Explosive Ordnance Disposal, removed the items from the harbour for disposal. Additional survey and object clearance requirements in order to identify both ferrous and non-ferrous items has prolonged the dredge, but has set a new benchmark for conducting medium to large scale dredging operations in a heavily bombed environment. The works are on track to complete in time for HMS Queen Elizabeth’s first entry to Portsmouth in 2017.

   b. America’s Cup World Series (ACWS) Returns to Portsmouth. July 2016 saw a return of the ACWS teams who were hosted in Portsmouth Naval Base in order to battle it out in front of crowds on Southsea seafront for a place in the 35th America’s Cup Challenge Series. Following the experiences of 2015, the course was refined to a smaller area in order to permit closer spectator viewing from visiting craft with an anchorage area established for small vessels in vicinity of Spithead. The weekend was once again supported by a fleet of over 40 volunteer RIBs and the Volunteer Harbour Patrol, while gaps in the racing provided opportunities to keep Portsmouth International Port ferry traffic flowing. In total, over 1000 craft came to view the racing each day, cementing Portsmouth’s title as the busiest venue on the international circuit.

   c. Vessel Traffic Management System (VTMS) Upgrade. In May 2016 the old Harbour Control VTS Suite was retired and the newly fitted Kongsberg VTMS was established in a temporary location within Semaphore Tower. With a new software and hardware package, and new radar heads at Whale Island and Fort Blockhouse as well as a much improved suite
of CCTV cameras covering most of the harbour, the system has provided enhanced situational awareness to the harbour control team. Improved replay functions have also enhanced our ability to carry out incident investigations and reviews. The final stage in bringing the system to full operational capability will be to establish a permanent home back on the 5th floor of Semaphore Tower once refurbishment works are complete; a new radar head is established to cover the central Solent area; meteorological instruments in vicinity of Spit Bank and Ballast Pile are integrated to give greater real time monitoring of weather and tidal stream conditions.

Safety and Environmental Management System

3. The port’s annual compliance audit was completed in June 2016. To ensure continued compliance with the Port Marine Safety Code (PMSC), the audit had increased in detail and scope in order to reflect the latest changes to the PMSC, its associated Guide to Good Practice (GtGP) and the Dockyard Port Marine Safety Policy. The Audit Team observed that the DyP of Portsmouth is the busiest of the three DyPs by quite a margin, is being operated safely and is generally compliant; 5 areas were highlighted for improvement to achieve full compliance, all of which have since been addressed with the following notable items reported below.

a. **Risk Assessments.** The audit identified that risk assessments were being categorised by activity rather than hazard, in variance to the GtGP and the requirements of the MarNIS system. In response to this, an extensive Hazard Identification event was undertaken in October 2016, attended by over 20 delegates from across the Royal Navy, ports industry, shipping owners and operators and leisure representatives. A comprehensive list of hazard based risk assessments was made which are now fully incorporated in to the port’s suite of risk assessments and subject to annual rolling review, for which stakeholder representatives are regularly sought.

b. **Safety Management System.** The Safety Management System currently published on the QHM Website was identified as being in need of a complete review in order to reflect current best practice and ways of working. With the arrival of a new Port Safety Officer in September 2016, a comprehensive review is fully underway and the revised SMS will be published in 2017.

Infrastructure Managed Change (New contracts, improvements and issues)

4. 2016 saw five areas of infrastructure change.

a. **VTMS Project Progress.** Now at initial operating capability, the VTMS replacement project is on-going, as described at paragraph 2c to the headlines above.

b. **Ministry of Defence Police (MDP) Berthing.** Due to the need to expand the MDP Marine Unit ready to provide the increased guarding requirements for the QEC carriers, the unit have outgrown their home in Portsmouth’s North Camber and been moved to newly established berthing facilities in the former 9 Dock.

c. **QEC Aids to Navigation.** New triple transits have been established in the northern part of Portsmouth Harbour and in vicinity of Spit Bank in order to lead the QEC carriers in to and out of Portsmouth. Additionally, a new pile has been placed in vicinity of the submerged barrier near to Horse Sand Fort which will display a directional light used for the QEC departure and a new green pile in vicinity of Southsea War Memorial will replace Southsea Castle Light as the directional light for entering the Portsmouth Approach Channel. All marks are lit by Yellow and Green lights which flash together at five second intervals, while various combinations of top lights will be turned on for entries and exits of the carriers.
d. **Personal Watercraft Area Revisions.** Following consultation with local user groups in 2015 and in concert with Gosport Borough Council (GBC), the Personal Water Craft (PWC) area at Lee-on-the-Solent was amended in order to simplify the measures in place, creating a system that is easier to understand for all users. GBC commissioned the re-siting of the buoys and placement of new signage at Daedalus Slip while we issued a new General Direction (1/16 – Personal Watercraft (Jet Skiing) / Water Skiing / Board Sailing (Wind Surfing) And Swimming) to replace General Direction 7/13 on the same subject.

5. **Berthing, Movements and Events**

In 2016 there were 202,674 vessel movements within Portsmouth Harbour. This figure is a combination of commercial, military, and ferry movements and also includes an average of 5000 leisure moves a month. The Capital Dredge works for the new Portsmouth Channel and Aircraft Carrier Berth Pockets created an increase in large vessel moves and this activity was supported by a total of 2007 acts of pilotage by Admiralty Pilots; further support was received from Portsmouth International Port’s commercial Pilots.
6. The Volunteer Harbour Patrol’s continued commitment to providing advice and assistance in the harbour entrance during peak times between March and October was once again key to reducing risk in the most congested area of the DyP and we are again, extremely grateful to the 32 volunteers for giving their time in support of this highly important task.

7. This calendar year saw over 174 notified events, ranging from cross-Solent swims to powerboat races and major regattas take place within DyP waters. The continued submission programmes and risk assessments to the Port Safety Officer by event organisers and clubs, remains a key measure to ensuring suitable de-confliction of events, issuance of Local Notices to Mariners and oversight of safety for all port users.

**Incidents and Near Misses**

8. A standard port metric to measure safety performance is to look at a ratio of recorded incidents to total vessel moves. For 2016 there was 60 incidents and near misses recorded. 47 of those incidents were related to safety of navigation which equates to 0.23 incidents per 1000 moves.

9. Two incidents in 2016 were MAIB reportable, one involving an incorrectly rigged pilot ladder on a visiting contractor vessels and the other involving a collision between a yacht and a ferry in the Portsmouth Approach channel which resulted in minor damage to the yacht.

10. A trend of tug lines parting was identified across the Solent port authorities. In response, a specific risk assessment review was conducted with Portsmouth’s tug provider Serco, from which additional monitoring measures have been put in place.

**Conservancy and Environmental Compliance**

11. During 2016 there were 25 failures of aids to navigation with four failures on category 1 equipment. Category 1 availability was 99.87% which is within the Trinity House target availability of 99.80%. The main fragility of category 1 items related to old technology in use on the Fort Blockhouse and Southsea Castle directional lights; both these items are due for upgrade or replacement in 2017.

12. As part of the on-going cooperation with the DyPs tier 2 oil spill response provider, in December 2016 Oil Spill Response Ltd (OSRL) and QHM staff conducted a joint exercise involving deployment of a boom and weir skimmer from the OSRL vessel Earl 2 around **HMS Ledbury**. This valuable training augmented earlier deployment exercises of the ports own shore side boom.

![Figure 4. Oil spill response exercise in HMNB Portsmouth](image)
13. QHM staff have again contributed to the Solent European Marine Site (SEMS) annual monitoring of activities and their impact on the environment, and attended the subsequent working group meeting. From this, a workshop is to be established by the SEMS group to advise participants on undertaking impact assessments when acting as statutory consultees for planning and licence applications.

14. Ten minor pollution incidents were recorded involving small quantities of light fuel oils. All were reported to the MCA.

**Human Resources**

15. Post rotations and recruiting have resulted in changes of personnel in the Deputy QHM and Chief Admiralty Pilot (CAP) positions and the establishment of a new position for a QEC Choice Pilot which was filled by the outgoing CAP. New personnel were recruited to fill the posts of Marine Services Superintendent, VTS Movements Manager and Port Safety Officer as well as two new VTS operators joining the team. The two trainee pilots achieved Limited Ships Pilot status and continue to work towards their All Ships qualification.

16. Throughout 2016, the pilotage team have continued to work with the command team of *HMS Queen Elizabeth* and SERCO’s tug masters to prepare for the carrier’s first arrival in Portsmouth. This has included several periods of training in Marin’s hydrodynamic Simulator in the Netherlands.

17. All this leaves the QHM team fully manned for the first time in several years, and in a healthy position to face the challenges of 2017 and the arrival of *HMS Queen Elizabeth*.

**Top 10 Risks held by QHM**

18. At the end of 2016 QHM held the following top 10 risks on MarNIS which are all assessed as ALARP.

<table>
<thead>
<tr>
<th>Number</th>
<th>Risk</th>
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<tbody>
<tr>
<td>1</td>
<td>Fire/Explosion: Large Vessel Alongside</td>
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<tr>
<td>2</td>
<td>Other Nautical Safety: Wash Causes Injury and/or Damage</td>
</tr>
<tr>
<td>3</td>
<td>Pollution – Water: Oil/Fuel Spill</td>
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<tr>
<td>4</td>
<td>Other Nautical Safety: MOB/Person in the water</td>
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<tr>
<td>5</td>
<td>Fire/Explosion: Large Vessel at Sea</td>
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<tr>
<td>6</td>
<td>Pollution – Water: Sullage/Bilge Spill</td>
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<tr>
<td>7</td>
<td>Flooding/Foundering: Sinking of Large Vessel</td>
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<tr>
<td>8</td>
<td>Collision: Large Vessel vs. RAM vessel operating in Bar Channel</td>
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<tr>
<td>9</td>
<td>Collision: Vessels Collide in Fog</td>
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<tr>
<td>10</td>
<td>Fire/Explosion: Small Vessel at Sea</td>
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