



**Office for Nuclear Regulation (ONR)  
Quarterly Site Report for  
Devonport Royal Dockyard  
(Devonport Royal Dockyard Ltd and  
HM Naval Base Devonport)**

**Report for period 1 April to 30 June 2014**

**Foreword**

This report is issued as part of ONR's commitment to make information about inspection and regulatory activities relating to the above sites available to the public. Reports are distributed quarterly to members for the Local Liaison Committee and are also available on the ONR website (<http://www.onr.org.uk/llic/>).

Site inspectors from ONR usually attend Devonport Local Liaison Committee meetings and will respond to any questions raised there. Any person wishing to inquire about matters covered by this report should contact ONR.

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## 1 INSPECTIONS

### 1.1 Dates of inspection

The ONR inspectors carried out inspections on the following dates during the quarter:

- 7 – 11 April 2014
- 13 – 15 May 2014
- 9 – 12 June 2014

The Superintending Inspector for Naval Nuclear Propulsion Plant Inspection visited the site on the following dates during the quarter:

- 9 April 2014
- 8 May 2014

The Chief Nuclear Inspector visited the site on the following date during the quarter:

- 8 May 2014

Some of the inspections were carried out with inspectors from the Ministry of Defence's internal regulatory organisation, the Defence Nuclear Safety Regulator (DNSR) and the Environment Agency.

## 2 ROUTINE MATTERS

### 2.1 Inspections at Devonport Royal Dockyard Ltd (DRDL)

Inspections are undertaken as part of the process for monitoring compliance with:

- the conditions attached by ONR to the nuclear site licence granted under the Nuclear Installations Act 1965 (NIA65) (as amended);
- the provisions of the Energy Act 2013
- the Health and Safety at Work Act 1974 (HSWA74); and
- Regulations made under HSWA74, for example the Ionising Radiations Regulations 1999 (IRR99) and the Management of Health and Safety at Work Regulations 1999 (MHSWR99).

The inspections entail monitoring licensee's actions on the site in relation to incidents, operations, maintenance, projects, modifications, safety case changes and any other matters that may affect safety. The licensee is required to make and implement adequate arrangements under the conditions attached to the licence in order to ensure legal compliance. Inspectors seek to judge both the adequacy of these arrangements and their implementation.

In this period, routine inspections of Devonport covered the following:

- examination, maintenance, inspection and testing;
- safety systems, structures and components;
- management of operations including control and supervision;
- staff training, qualifications and experience;
- new plant construction and commissioning;
- emergency preparedness;
- safety documentation and periodic review
- incidents on the site;
- radiological protection;
- operating rules and instructions

- modifications to plant, equipment and safety cases,
- radioactive waste management;
- quality assurance and records;
- organisational changes;
- decommissioning;
- industrial safety.

In general, ONR judged the arrangements made and implemented by the site in response to safety requirements to be adequate in the areas inspected. However, where improvements were considered necessary, the licensee made satisfactory commitments to address the issues, and the inspectors will monitor progress during future visits. Where necessary, ONR will take formal regulatory enforcement action to ensure that appropriate remedial measures are implemented to reasonably practicable timescales.

### **2.1.1 Organisational Capability**

Under the conditions of the nuclear site licence DRDL is required to maintain adequate resources to ensure the safe operation of the site and also have arrangements to control any change to its organisational structure (under Licence Condition 36).

DRDL's management of human resources in relation to nuclear safety demands has been of long-standing regulatory interest to ONR. As reported in previous quarterly reports, ONR has also been concerned about the management of organisational change within DRDL. DRDL are working to improve this process. ONR requested that all organisational change proposals are brought to its attention, and we have been closely monitoring their implementation.

ONR also requested that DRDL bring their Licence Condition 36 (LC36) arrangements in line with the industry modern good practice guidance. ONR consider that this will require a sizeable amount of work and has set DRDL the expectation of making these improvements within eighteen months. The management of organisational change process requires more urgent attention, especially during a period with an increasing number of changes.

During the period, DRDL has replied to ONR's letters on LC36 and the findings of the 2013 joint ONR / DNSR LC/AC 36 compliance inspection which focussed on the capability management arrangements including the nuclear baseline. The reply defined the 2014 / 15 objectives which DRDL has established to deliver the required improvements. DRDL believes that the proposed improvements will move the organisation towards a more proactive means of ensuring and assuring their nuclear capability and capacity in the medium to long term. ONR intends to regularly engage with DRDL to monitor progress against the objectives and ensure the delivery of the short term improvements and encourage the move to a more proactive organisation in the medium to long term.

### **2.1.2 EIM&T**

ONR continues to engage with DRDL to seek further improvements to their arrangements for examination, inspection, maintenance and testing (EIMT) of structures, systems and components (SSC) important to safety. DRDL is developing a strategy and plan for EIMT improvements that will address the areas identified by ONR. DRDL intends integrate the EIM&T aspects into the longer term improvement programme which is being developed from the improvement notice work across the Devonport site (see below). ONR will continue to closely monitor this area whilst improvements are delivered.

### **2.1.3 Site Developments and Future Nuclear Facilities**

ONR continues to engage on the project to provide a new defueling capability in the Submarine Refit Complex (SRC), known as 'Future Nuclear Facilities'. This will enable

defueling of laid up submarines currently on the Devonport site, together with other submarines when they are taken out of service. The project includes a replacement Reactor Access House (RAH) for removing fuel from the reactor, an updated operational safety case and other safety improvements.

Assembly of the 14 Dock RAH is progressing off the DRDL licensed site within the Frigate Refit Complex (FRC) at 5 Dock. ONR continue to engage with DRDL on the 14 Dock RAH project ensuring regulatory control through permissioning of the established hold points and through DRDL's compliance with its arrangements for the construction and installation of new plant (LC19) and modification to the design of plant during construction (LC20).

DRDL is carrying out a range of design and safety case activities for the 14 Dock RAH up to the next regulatory hold points which take account of ONR's requirements for installation off the licensed site. DRDL is working to a programme set out in its Management Action Plan for the project to address all of these requirements. DRDL is progressing with the manufacture of equipment for the 14 Dock RAH and installation at Devonport. ONR and DNSR carried out a joint inspection of records from manufacture and construction and concluded that the records overall were adequate, with one area considered to be exemplar. Based on inspections and the information provided at bi-monthly meetings, ONR and DNSR are confident that DRDL is implementing adequate arrangements for the 14 Dock RAH manufacture and installation.

#### **2.1.4 Submarine Refit Complex (SRC) Safety Case**

ONR previously granted permission under the new SRC safety case (PSC 220) solely for the purpose of a single docking in 15 Dock. This safety case delivered many benefits through the modern standards approach. However, ONR considers that there are further improvements still to be implemented and recommendations from assessments to be resolved before ONR permissions the next use of the safety case.

DRDL has produced a docking schedule for the next docking in 14 Dock together with an analysis of the risks to the programme. DRDL will produce a Category A Change Request (CR) to implement modern standards in 14 Dock, which will detail how the required components from PSC 220 in 15 Dock can be implemented in 14 Dock. DRDL will also produce revised 14 Dock safety case documentation which will include an Implementation Plan and a Basis for Continued Operation (see below). DRDL confirmed that the principal safety case documentation and the safety justification will go through DRDL's due process. ONR confirmed that it expects that the PSC 220 crane engineering improvements to be implemented before the next docking in 15 Dock.

#### **2.1.5 9 Dock Safety Case**

During the previous reporting period, the MoD announced the decision to refuel HMS Vanguard during its forthcoming deep maintenance period in the 9 Dock facility. This decision requires some changes to be made to the planned revision to the facility safety case and also the periodic review of safety for certain facilities that were not intended to be used during future maintenance. In response to the decision to refuel, a number of options were identified for the revised safety case. DRDL believes that the option that has been chosen will deliver a new modern standards safety case and considers that it will provide the greatest safety benefits. ONR judged this to be a satisfactory approach which should result in a modern standards safety case for VDMP and 9 Dock

DRDL has also developed a project plan for the development of the revised safety case and ONR believes that this will provide a satisfactory method of tracking progress and should clearly highlight any delays to the safety case programme. ONR and DNSR will continue to engage in regular discussion with the project team developing the safety case and will review the developing regulatory assessment strategy to set out which aspects of the case regulators wish to examine in detail.

### **2.1.6 Through Life Management Process**

During this period ONR continued to engage with DRDL and MoD in relation to the Through Life Management Plan (TLMP), which will form the basis for through-life capability management and site asset management. Development of the process and governance structure is progressing and the process has now developed interfaces with other areas including the safety case programme, the Periodic Review of Safety team and Plant management action plans. ONR continues to support the engagement and intends to continue to monitor the development of the process. MOD's decision to refuel HMS Vanguard will have an impact on the TLMP and ONR will review the regulatory strategy when the full extent is determined.

### **2.1.7 Periodic Review of Safety**

In 2013, ONR issued agreement to the implementation of the new modern standards safety case for the Submarine Refit Facility (PSC 220). Part of this safety case implementation process included addressing the priority B actions identified by the 14 Dock Periodic Review of Safety (PRS), Global Assessment Report (GAR) and associated Improvement Plan (IP). However ONR's agreement for the implementation of PSC 220 was for a single docking in 15 Dock only and ONR continue to engage with DRDL to resolve ONR's assessment of the relevant sections in the GAR, which set out the Basis for Continued Operation (BFCO) of 14 Dock. These queries include mechanical and civil engineering aspects for which ONR will continue to progress the issues through to resolution. The conclusion of ONR's assessment will be detailed in a Project Assessment Report and a decision on continued operations set out in a letter to DRDL.

ONR has assessed the output of DRDL's site wide PRS. One of the outputs of this is the leadership and management for safety (LMFS) - safety factor report. ONR's assessment of this report has found some shortfalls against the expectations of ONR guidance, although this was not issued until after the PRS was completed. ONR are thus engaging with DRDL to establish a way forward to address this gap. The conclusion of ONR's assessment will be detailed in a Project Assessment Report and a decision on continued operations set out in a letter to DRDL. Both of these Project Assessment Reports will be published on our web site in due course.

### **2.1.8 IRR99 Inspection**

During 2013, there was a minor accidental intake of radioactive material to three staff working in the Nuclear Equipment Maintenance and Storage Facility (NEMSAC). The intake happened when a large component from the submarine was being manoeuvred within an enclosure in the building. There was an accidental tear in the heavy sheet plastic enclosing the component and a small amount of radioactive particulate matter was released, a little of which was inhaled by the staff concerned. DRDL carried out an independent internal investigation and identified a number of improvement actions concerning risk assessment and the handling of this and similar components.

During the period, ONR carried out an Ionising Radiations Regulations 1999 (IRR99) compliance inspection to monitor progress with the actions raised during the follow up to the NEMSAC event. ONR assessed DRDL's progress in the areas of radiological risk assessment and work control in order to ensure that worker doses were restricted So Far As Is Reasonably Practicable (SFAIRP), and in the standard of arrangements for controlling radioactive contamination. The areas inspected included the control of work in radiologically controlled areas and the use of temporary containment for work involving radioactive contamination. Although ONR did not identify any compliance-related issues, we recommended that the process of transferring specialist radiological protection advice from risk assessments to Work Authorisation Packs should be improved.

## 2.1.9 Radioactive Waste Management

ONR continue to hold regular quarterly meetings with the Environment Agency, DRDL and HM Naval Base Devonport to monitor progress with a suite of projects and ongoing work relevant to the management of radioactive wastes and decommissioning at Devonport.

ONR continues to monitor progress with DRDL's Integrated Risk Assessment Process (IRAP) that is intended to replace the traditional approach to safety cases for those activities on the licensed site that had been assessed as having low radiological consequences. DRDL confirmed that production of the IRAP safety case for movement of radioactive materials has been halted because of lack of resources. ONR has engaged with DRDL regarding the resourcing of the IRAP safety cases and believes that the resourcing issues are being resolved.

ONR is also monitoring the disposal of twelve redundant Modified Magnox Flasks (MMFs) off the Devonport site for the purpose of decontamination and disposal. 8 of the 12 MMFs have now been removed from site and 5 have been decontaminated at Winfrith to allow their disposal as cleared waste. DRDL's project plan predicts disposal of all MMFs by the end of 2014.

ONR is maintaining a close oversight of the project to develop a disposal route for spent resins presently stored at the Nuclear Utilities Building and we anticipate an Initial Gate Business Case for the assessment phase of that project will be put through due process by the MoD in the near future. ONR is encouraging the MoD and licensees to adopt an integrated approach that will address accumulations of similar material at Devonport and other sites.

## 2.2 Inspections at HM Naval Base Devonport

The majority of sites inspected by ONR are licensed under the Nuclear Installations Act 1965 (as amended). HM Naval Base Devonport is not a licensed site although it operates under Authorisation from the Defence Nuclear Safety Regulator (DNSR). The site is regulated by ONR through other legislation as noted below. This report summarises the inspection and regulatory activities associated with HM Naval Base Devonport, which are co-ordinated with inspections by DNSR. Inspections are undertaken as part of the process for monitoring compliance with:

- the Health and Safety at Work etc Act (HSWA) 1974; and
- Regulations made under the HSWA (for example the Ionising Radiations Regulations 1999, the Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPiR) and the Management of Health and Safety at Work Regulations 1999).

### 2.2.1 System Based Inspection

During this period DNSR led a team consisting of DNSR, EA and ONR in a System Based Inspection (SBI) of the Naval Base Authorisation Conditions (ACs) for the Electrical Shore Supplies System. During the inspection, the Regulators examined DRDL's management arrangements for the Electrical Shore Supplies System and inspected several components of the System including shore supply cables and terminations used to connect the shore supplies to a submarine's AC and DC hull connectors, Submarine Refit Complex (SRC) service tunnels, and various examples of 60 Hz and DC system switchgear and associated equipment. During the SBI inspection, ONR, DNSR, and EA identified several good points along with a number of areas for improvement but generally the Regulators considered DRDL's arrangements for 5 Basin electrical supplies and their implementation to be adequate.

## 2.3 Other work

The Superintending Inspector for ONR's Propulsion sub programme visited the site on 9 April to attend a regulatory interface meeting with the DRDL senior management team and Naval Base representatives. The Chief Nuclear Inspector and Superintending Inspector also visited the site on 8 May to attend an interface meeting with DRDL management board members and Naval Base management representatives and for a familiarisation visit to the major nuclear facilities.

## 3 NON-ROUTINE MATTERS

Licensees are required to have arrangements to respond to non-routine matters and events. ONR inspectors judge the adequacy of the licensee's response, including actions taken to implement any necessary improvements. Matters and events of particular note during the period were:

### 3.1.1 Improvement Notice

During the previous reporting period, DRDL complied with the Improvement Notice, served in July 2013, for not being fully compliant with the Management of Health and Safety at Work Regulations and Licence Condition 24 (Operating Instructions). ONR served the notice following regulatory compliance inspection findings and a series of incidents at the site which identified weaknesses in DRDL's arrangements. Adopting industry good practice, DRDL identified the root causes of problems and formulated four key areas of improvement with a particular focus on the safety of nuclear operations. These areas covered aspects such as providing improved operating instruction guidance, enhancing safety briefings, promoting leadership and safety management skills, reinforcing roles and responsibilities, establishing an assurance framework for operations, improving communications and workforce engagement and also strengthening the organisational structure. ONR maintained close engagement with DRDL to ensure that improvements were progressed in line with the regulatory expectations.

Also during the previous period, ONR saw evidence that the improvement actions targeted those persons directly controlling and supervising operations to ensure they were familiar with their responsibilities as well as improving the clarity and ownership of associated operating rules and instructions for ensuring safety.

In addition to the improvements already made, during this period DRDL has taken the opportunity to consider further nuclear safety objectives aimed at sustaining compliance and delivering improvements in other areas.

DRDL proposed that the initial programme will be to implement the improvements to the capability and Management of Change arrangements required by the ONR letters on LC36. ONR has engaged with DRDL and monitored the development of the improvement programme to ensure progress and delivery of further improvements.

### 3.1.2 Incidents on the site

During the previous period DRDL notified ONR of two events which met the criteria for reporting under the INF1 process.

The first event occurred in January and involved the movement of an approved temporary radioactive store (Chacon) for material from HMS Trenchant. The event was categorised as radioactive material or waste inadvertently transported off the licensed site although the store remained on the Devonport site throughout the event. There were no radiological consequences from the event. However, DRDL has instigated a full investigation into the incident which involved a loss of control of the lightly-contaminated material. ONR was satisfied with the immediate remedial action taken by the Licensee and liaised with DNSR and EA on this event. ONR will consider the findings and recommendations of the DRDL investigation when it is complete and will liaise with the EA regarding any further regulatory action.

The second event occurred in March and involved HMS ARGYLL which was berthed at 5 Wharf (off the DRDL Licensed Site) in Devonport Naval Base. The incident involved routine maintenance activities which led to the inadvertent ejection of a dummy torpedo (not live) which came to rest at the site boundary fence. There were no nuclear, radiological or conventional safety consequences other than minor damage to the fence. The Commander of the Base (NBC) issued an immediate embargo on all weapons testing and secured the damaged fence. The MoD is undertaking an investigation and restrictions have remained in place during this period. The MoD has committed to full transparency of the investigation with the site. DNSR has taken the lead with respect to considering safety management arrangements used by NBC to safeguard both the Naval Base and the DRDL site. ONR will liaise with DNSR to determine whether any further regulatory action is needed.

During this reporting period, DRDL notified ONR of an event which met the criteria for reporting under the INF1 process.

Following activation of the 15 Dock dock flood alarm in the Ship's Control Office (SCO), Ships' Staff (SS) confirmed that there was no unexpected water ingress into the dock and contacted DRDL to diagnose and remediate any issue with the dock drainage system that would result in the build-up of water in the dock bottom. DRDL did not provide the appropriate support in a timely manner, although the issue was eventually successfully diagnosed and remedied. A further event occurred regarding a shortfall in the response to activation of the ship's temporary fire alarm whereby the emergency access to site provided for the SS firefighting team was not open when required, extending the time for the team to reach the submarine.

Independently, neither of these relatively minor deviations would have resulted in formal notification to ONR. However, as they had occurred over a period of three working days and given the significance of effective emergency response to site safety, DRDL enforced a 'Safety Stand Down'. The stand down placed a 'stop work' notice on all hot work within the Submarine Refit Complex and on submarines requiring watertight integrity breaches, minimising the effect of any perceived shortfall in the associated emergency arrangements. DRDL has undertaken to formally investigate the two events, and ONR will carry out appropriate information gathering activities.

#### 4 REGULATORY ACTIVITY

ONR inspectors, specialist inspectors and HSE inspectors may issue formal documents to ensure compliance with regulatory requirements. Under nuclear site licence conditions, ONR issues regulatory documents, which either permit an activity or require some form of action to be taken; these are usually collectively termed 'licence instruments' (LIs), but can take other forms. In addition, inspectors may issue enforcement notices to secure improvements to safety.

- No LIs or Enforcement Notices were issued during the period.

Table 1

Licence Instruments and Enforcement Notices Issued by ONR during this period

Date	Type	Ref No	Description

Reports detailing regulatory decisions can be found on the ONR website at <http://www.onr.org.uk/pars/>.

## 5 NEWS FROM ONR

### 5.1 ONR has changed

On 1 April 2014, ONR was established as a Public Corporation under the Energy Act 2013. As a result of our change in legal status, the way that we operate will evolve as we make use of the flexibility that the new status affords us. The Energy Act 2013 clarifies the legal framework for regulation of GB nuclear sites and the responsibility now rests firmly with ONR.

In addition, the legislative changes gave ONR the powers to regulate conventional health and safety. This change to legislation gave us the necessary powers to continue to provide efficient and effective regulation of the nuclear industry, holding it to account on behalf of the public.

To support the launch of ONR as a Public Corporation, ONR has its own logo which will be used on all documents and other external communication media. Other changes include a new enforcement policy statement, a new website and email addresses, a new Annual Plan 2014/15, new warrants for inspectors, and new ONR branded personal protective equipment.

Insight into ONR's work as an independent regulator of the nuclear industry can be found in ONR's Quarterly News. The online publication (<http://www.onr.org.uk/onr-quarterly-report.htm>) reports on the key themes and developments in each of ONR's regulatory programmes and provides an update about the ongoing changes at ONR. <http://www.onr.org.uk/index.htm>. For the latest news and updates from ONR visit the website and sign up for our ebulletin (<http://www.onr.org.uk/ebulletin/index.htm>).

## 6 CONTACTS

Office for Nuclear Regulation  
Redgrave Court  
Merton Road  
Bootle  
Merseyside  
L20 7HS

website: [www.onr.org.uk](http://www.onr.org.uk)  
email: [ONREnquiries@onr.gsi.gov.uk](mailto:ONREnquiries@onr.gsi.gov.uk)

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