



**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 January to 31 March 2016

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/lc/>).

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:

- 6 – 7 January 2016
- 18 – 22 January 2016
- 15 – 19 February 2016
- 1 – 3 March 2016
- 14 – 18 March 2016

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;
- plant construction and commissioning;
- emergency preparedness;
- incidents on the site;
- radiological protection;
- operating rules and instructions;
- modifications to plant, equipment and safety cases;
- radioactive waste management;
- organisational changes;
- decommissioning; and
- industrial safety and meeting safety representatives.

In general, ONR judged the arrangements made and implemented by the site in response to safety requirements to be adequate in the areas inspected. 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

In January 2016 DRDL appointed a new Head of Organisational Capability who is leading the activities to improve LC36 arrangements. Indications are that DRDL is making progress to improve the arrangements and their implementation. ONR has communicated its expectations to DRDL for a follow up LC36 compliance inspection scheduled for later in 2016. ONR will continue to monitor progress of the LC36 improvement activities throughout 2016.

2.1.2 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 final defuelling of Laid-Up Submarines (LUSM). The project includes a new Reactor Access House (RAH) for removing fuel from the reactor, an updated operational safety case and other safety improvements.

The RAH has been assembled off the licensed site within the Frigate Refit Complex and is expected to be transferred and installed onto the licensed site in the next few months. ONR has a project related to the RAH to provide regulatory oversight through established regulatory hold-points and through DRDL's compliance with its arrangements for modification to the design of plant during construction (LC20) and commissioning (LC 21).

2.1.3 Submarine Refit Complex (SRC) Safety Case

Resulting from previous permissioning activities ONR seeks further improvements to the SRC plant safety cases. ONR's expectation is that this will be achieved as part of a wider safety case improvement initiative commencing in mid 2016. DRDL has committed to removing some redundant civil structures such as a concrete crane pedestal.

2.1.4 9 Dock Safety Case

In accordance with their safety management arrangements DRDL requested ONR's agreement to implement the revised Plant Safety Case for Vanguard Deep Maintenance Period (VDMP). Following on from a targeted and proportionate assessment, ONR issued a licence instrument at the end of December 2015 agreeing to the implementation of the VDMP safety case. ONR will now continue to monitor DRDL's compliance with the safety case through normal regulatory business. DRDL is currently developing phase 2 of the safety case for refuelling (VDMP(R)). ONR's early engagement has commenced through routine interventions and ONR anticipates receipt of the VDMP(R) safety case for assessment in mid 2016.

2.1.5 Emergency preparedness

ONR is reviewing the Devonport off-site Emergency Planning Area (EPA) and intends to publish its determination of a revised EPA. ONR has had further engagements with DRDL, HMNB (D), DNSR, and Plymouth City Council in this regard and is close to completing its assessment of the information that supports the determination of the EPA. ONR will continue to engage with the key stakeholders as the EPA determination process progresses.

2.1.6 Emergency Exercise

A joint DRDL / HMNB (D) Emergency Exercise and Submarine Refit Complex (SRC) Evacuation was observed by an ONR / DNSR team of inspectors. The exercise scenario was based on a reference accident event during normal working hours on a fictional Trafalgar Class submarine moored at 8 Wharf. The relatively limited scope and extent of the exercise and evacuation resulted in 'live' play being limited to the incident area, the Forward Command Post (FCP), the Exclusion Zone Reception Centre (EZRC), the SRC, and Shelter Station C.

The Regulators judged that there was an adequate performance of the FCP, the intervention teams, and the EZRC. The SRC evacuation to Shelter Station C involved several hundred people but was well controlled and Shelter Station C was well managed. ONR also observed a separate out-of-hours demonstration of the DRDL / HMNB (D) revised emergency call out arrangements which ONR judged to be adequate.

2.1.7 System Based Inspection

ONR carried out a system based inspection (SBI) of the 9 Dock primary circuit water and dockside make-up system. From the evidence examined during this inspection, we consider that DRDL has adequately implemented those claims within the facility safety case that relate to the system. DRDL was able to demonstrate an adequate understanding of the limits and conditions necessary in the interest of safety in respect of the system.

However, ONR did identify some areas for improvement within the licensee's arrangements for DRDL to progress. For example, ONR identified that the linkage between the requirements of the safety case and the regular and systematic maintenance being carried out on the plant and equipment within the facility needs clarification. However, the plant inspected gave no cause for concern over condition or functionality and there was no apparent deterioration or degradation that was not being managed. From the evidence sampled, we considered that the arrangements in place for containment of radioactive material to be adequate and being appropriately inspected and monitored.

2.1.8 Licence Compliance Inspection – LC27 (Safety Mechanisms, Devices and Circuits) and LC28 (Examination, Inspection, Maintenance, and Testing)

ONR inspected DRDL's arrangements made under Licence Conditions LC 27 (SMDCs) and 28 (EIM&T) and their implementation. As part of this inspection, ONR also examined DRDL's Supply Chain management arrangements.

ONR found that based on the sample the licensee's LC27 compliance arrangements do not clearly define within the safety related category what SMDC is and that the identification of SMDCs on plant requires improvement. ONR requested that DRDL review their arrangements for identification of Systems, Structures, and Components (SSC) that act in response to a fault to prevent or mitigate a radiological consequence and to address any shortfalls identified in order to meet the requirements of LC27. However, ONR found that based upon on the inspection sample that the licensee's LC28 compliance arrangements meet the fundamentals of ONR's guidance with respect to the provision of written instructions to carry out operations which may affect safety, including the implementation of safety case limits and conditions.

As one of the Strategic Themes in its 2015-2020 strategy, ONR has undertaken to influence the UK nuclear supply chain (through current and future licensees) to improve its performance, ensuring the delivery of products and services safely and to the correct quality. As a result, ONR included examination of DRDL's Supply Chain Management as part of this LC27 / 28 inspection in support of this Strategic Theme.

During the inspection, ONR recognised DRDL's active involvement in the LC 21 supply chain improvement initiative and noted that progress was being made with implementation of the relevant Defence Standard. However, ONR judged that there are improvements required to the Licensee's approach to managing their supply chain for nuclear related items and

services. ONR will monitor the implementation of improvements and this will inform ONR's intervention strategy for 2016/17.

2.1.9 Licence Compliance Inspection – LC7 (Incidents on site)

The main aim of this planned LC7 compliance inspection was to assess DRDL's progress against the shortfalls detailed in ONR's letters and inspection findings from 2015. DRDL is delivering the required improvements through its Nuclear Safety Improvement Programme (NSIP) via a dedicated LC7 workstream.

DRDL has responded positively to the concerns detailed in ONR's letters and inspection findings and has made progress against the longer term site wide actions. However, there are still areas where further improvements are required. ONR will carry out a follow-up LC7 compliance inspection later in 2016 / 17 to assess whether all of the improvements have been made to the required standard.

2.1.10 Licence Compliance Inspection – LC21 (Commissioning)

ONR witnessed evidence of a staged approach being adopted for LC21 commissioning activities with adequate checks and balances in place prior to moving from one stage to the next. There was good evidence of full and accurate record keeping both during and on completion of commissioning activities.

ONR observed adequate arrangements and test results for safety significant equipment. A graded approach has been adopted commensurate with the equipment's nuclear safety significance, this includes the level of testing and test result acceptance. A graded approach was also evident to the level of quality checks applied to safety significant equipment.

ONR judged that the licensee's arrangements for Commissioning of any plant or process which may affect safety are adequate. Some areas for improvement were identified which have been shared with the licensee but no significant shortfalls were identified.

2.1.11 Licence Compliance Inspection – LC26 (Control and Supervision)

ONR found evidence of good stakeholder interactions during early planning activities and setting to work meetings. Supervisors and operatives understood the tasks they were performing and the safety implications of the work being conducted. We observed adequate control of nuclear safety related tasks through the use of the bar code system and work authorisation processes. However, ONR believes that DRDL should consider whether individuals who hold nuclear safety responsibilities have sufficient time to fulfil their duties.

During this inspection, ONR identified that the nuclear safety significance of the work to be undertaken was not given the prominence expected. ONR believes that DRDL should consider whether nuclear safety is appropriately considered at all levels of planning / briefings to ensure nuclear safety standards remain at the appropriate level. There was no clear distinction between nuclear safety significant, safety related and normal plant activities.

For the activities observed, ONR did not identify any significant concerns relating to supervision of work and adequate control was being applied. However, based on the evidence sampled, we consider that DRDL's arrangements do not provide a means by which a graded level of supervision can be identified i.e. there is no visibility of a graded approach to supervision of operations that may affect safety commensurate with the nuclear safety significance of the activities being undertaken.

2.1.12 Radioactive Waste Management

ONR, EA, and DNSR continue to hold a regular quarterly waste meeting with DRDL and HM Naval Base Devonport. The meeting format will be reviewed in 2016 to focus on on-going waste management on the site and waste metrics with brief updates on specific projects.

ONR, EA and DNSR expectations for the Nuclear Utilities Building (NUB) improvement programme scope and strategy were explained to DRDL, and will be followed up by a joint letter from the Regulators. Interaction with waste management activities and infrastructure across the site should be considered and included in Devonport's Through Life Management project.

The Regulators discussed specific projects on Disposal and Recycling of Redundant Equipment (DRRE) team capability and Integrated Waste Strategy (IWS). It was clear the licensee understands the key skills and competencies required to maintain the DRRE capability and is intending to apply a systematic approach to training in the future. There is agreement within DRDL that the IWS is a useful document and should be updated to meet the needs of the site.

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 (REPPPIR) and the Management of Health and Safety at Work Regulations 1999).

2.2.1 IRR99 Compliance Inspection – Devonport Naval Base

ONR carried out an inspection of control of radiation doses on the Devonport Naval Base site in accordance with its programme of planned inspections to examine Control of Radiation Exposure (CORE) under Reg 8 IRR99. To ensure consistency with previous ONR CORE inspections, the inspection was conducted using a standard ONR questionnaire and follow-up question and answer sessions with the duty holder.

The aspects examined included: ALARP strategy; dose limits, targets and budgets; trending and analysis; learning from experience; targeting of ALARP measures; work scheduling; provision of information and training for workers; and benchmarking and sharing relevant good practice.

HMNB Devonport's operations in radiation protection are consistent with several examples of relevant good practice in the following areas:

- Procedures of how to consistently fill out radiological risk assessments;
- The writing and application of radiological risk assessments and prior radiological risk assessments;
- ALARP arguments for when to apply shielding.

The arrangements inspected were deemed overall to be adequate and no issues were identified that were deemed to adversely impact on radiological safety.

3 NON-ROUTINE MATTERS

Licencees 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 of particular note during the period were:

3.1.1 Improvement Notice

In December 2014 ONR served an Improvement Notice (IN) on DRDL following an investigation which highlighted shortfalls in the health and safety arrangements for working with ionising radiations in Nuclear Equipment Maintenance and Storage Facility (NEMSAC). The notice required actions to be taken by 31 January 2016.

ONR carried out an IN close-out inspection during the first week in January and found that DRDL had completed most of the actions required to close out the notice. DRDL completed the remaining actions including the final issue of a radiological action level policy document and associated briefings which ONR confirmed during January Site Inspection week. ONR confirmed the IN's requirements had been met before the due date.

3.1.2 Incidents

DRDL found an item with minor contamination during a routine radiological survey of a storage area. The contact dose rate was at background level and no loose contamination was detected on the item. DRDL has convened an investigation focused on the control of materials and ONR will follow-up as part of routine interventions.

As part of aligning the 15 Dock dockside cranes in order to undertake statutory examination using a Mobile Elevated Work Platform (MEWP) the cranes were traversed over the parked MEWP breaching a safety case limit and condition. Following this incident DRDL conducted a safety stand-down prior to return to work and initiated an investigation. ONR has conducted initial enquiries and continues to gather information.

4 REGULATORY ACTIVITY

ONR 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 have been issued during the period.

5 NEWS FROM ONR

Regulation Matters magazine

Insight into ONR's work as an independent regulator of the nuclear industry can be found in Regulation Matters. This quarterly online publication (<http://www.onr.org.uk/regulation-matters.htm>) reports on the key themes and developments in each of ONR's regulatory programmes and provides an update about the on-going changes at ONR. For the latest news and updates from ONR, you can also visit the website and sign up for our e-bulletin: <http://www.onr.org.uk/index.htm>.

Chief Nuclear Inspector appointment

ONR announced the appointment of Dr Richard Savage as its new Chief Nuclear Inspector (CNI) to lead our regulatory activity. Richard is a Chartered Engineer with an extensive

background in nuclear safety and regulation. He served as Head of the Defence Nuclear Safety Regulator, Ministry of Defence, before being appointed to ONR as a Deputy Chief Nuclear Inspector in 2013. He was Acting CNI since Dr Andy Hall's retirement in November 2015.

ONR Strategic Plan 2016-2020

In March, ONR published its Strategic Plan covering 2016-2020. The plan sets out the factors that will influence our work and the assumptions we have made about regulating the nuclear sector in the next few years, as well as how we deliver the commitments we have made to the public, ministers and government, licensees, duty holders and our staff. The plan was laid in Parliament on 22 March and can be viewed on the ONR website.

6 CONTACTS

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Published 04/16

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