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 October to 31 December 2015

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/llc/).

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:

- 5 – 9 October 2015
- 28 – 29 October 2015
- 3 – 5 November 2015
- 23 – 25 November 2015
- 7 – 10 December 2015

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 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.

Assembly of the RAH is progressing off the licensed site within the Frigate Refit Complex and is expected to be delivered to programme. ONR has an intervention project related to the RAH to provide regulatory oversight through established regulatory 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). Inactive commissioning of the tooling to be used in the RAH during de-fuelling will be carried out in one of DRDL's on-site test facilities.

2.1.2 Submarine Refit Complex (SRC) Safety Case

During ONR's assessment prior to agreeing to the docking in 14 Dock, it became apparent to ONR that the safety submission required supplementary information. This triggered further engagement with the licensee and additional ONR assessment to support granting the permission. In response to this DRDL has submitted a further safety case modification to formalise the supplementary safety assessment within its existing safety case documentation. ONR's assessment of this document and the supporting information was sufficient to grant permission for the next docking in 15 Dock. ONR continues to seek further improvements to the safety submission.

2.1.3 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). ONR carried out a targeted and proportionate assessment of the safety case to assess its adequacy and confirm it is consistent with relevant good practice. ONR has previously carried out extensive assessment of 9 Dock safety cases and consequently ONR's assessment focused on the new or novel aspects of the revised case. This assessment concluded that the case was adequate and recommended that ONR should approve the implementation of the revised case. Additionally ONR carried out an inspection of the engineered safety measures, management arrangements, training, competence, and planned maintenance activities, which concluded that DRDL was suitably managing the implementation of the case and that DRDL's operational readiness review would provide adequate assurance that the case has been successfully implemented.

ONR issued a licence instrument at the end of December 2015 approving implementation of the VDMP safety case. ONR will now continue to monitor compliance with the safety case through normal regulatory business. DRDL is currently developing phase 2 of the safety case for refuelling. ONR is monitoring its development and anticipates receiving the case for assessment by mid 2016.

2.1.4 Emergency preparedness

ONR now uses the term off-site Emergency Planning Area (EPA) to identify the area around a nuclear site where the local authority is required to have a plan for protecting the public in the

event of an off-site emergency (the term Detailed Emergency Planning Zone (DEPZ) has previously been used to define this area). The size of the EPA is determined on a site-by-site basis and depends on the hazard presented by the site, with other local considerations being given to particular factors associated with each site.

The Devonport EPA is currently in the process of being re-assessed by ONR. During the period, ONR has had further engagements with DRDL, HM Naval Base Devonport (HMNB (D)), DNSR, Plymouth City Council, and Cornwall County Council regarding the determination of the Devonport EPA and shared its detailed proposals. ONR will continue to engage with the key stakeholders as the EPA determination process progresses.

2.1.5 Demonstration Emergency Exercise

During the period, a team of ONR and DNSR inspectors observed the Joint Emergency Exercise 2015 (JEX15) that constituted the annual demonstration of the DRDL licensed nuclear site and HM Naval Base Devonport (HMNB D)) emergency arrangements, as required under Licence and Authorisation Condition 11. The exercise aim was to demonstrate and test the response to a Devonport Site Accident on the Devonport Site outside normal working hours. The exercise scenario was based around a simulated reactor accident on submarine whilst alongside 9 Wharf within HMNB (D).

Following the exercise, HMNB (D) and DRDL carried out a comprehensive debrief that identified areas for improvement in the management and operation of the Forward Control Point (FCP), the operation of the Evacuation Zone Reception Centre (EZRC), and to the alerting arrangements for emergency staff. ONR and DNSR provided feedback and agreed with DRDL and HMNB (D) that the specific aspects identified for improvement would require a further demonstration.

Overall, ONR and DNSR judged that the exercise overall had been an adequate demonstration of the Devonport emergency arrangements but confirmed that a further demonstration of the specific areas identified will be required early in 2016.

2.1.6 Compliance Inspection – IRR99 (Control of Radiation Exposure)

As part of a programme of planned inspections to examine Control of Radiation Exposure (CORE) across a number of licensed sites (IRR99 Reg 8), ONR carried out a CORE inspection at Devonport. At the time of the inspection DRDL was working to make improvements to its arrangements in response to the extant Improvement Notice for radiological risk assessment on the licensed site. Improvements are required to procedural controls for radiological risk in specific areas including work scheduling, learning from experience and provision of information/instruction/training to workers on radiological protection. DRDL is undertaking a large site-wide programme to make improvements in all these areas and this appears to be progressing satisfactorily.

Overall ONR deemed the inspection as adequate as DRDL was able to show ongoing improvements and a positive trend in the areas previously considered to be below standard. DRDL's operations are consistent with several examples of relevant good practice in radiation protection, most notably in personal exposure trending and analysis and in the arrangements it has in place for training of its own staff working within the radiological protection organisation. However planned improvements still need to be implemented in the areas of standards of training, information and instruction of workers on the rest of the site.

2.1.7 Licence Compliance Inspection – LC23 (Operating Rules) and LC24 (Operating Instructions)

ONR inspected DRDL's arrangements made under Licence Conditions LC 23 (Operating Rules) and LC24 (Operating Instructions) and their implementation. ONR found that the management arrangements for LC23 in the main meet regulatory recommendations, with

respect to hierarchy of limits and conditions, and are clearly derived from relevant safety functions. ONR judged that the licensee's arrangements and their implementation for LC23 to be adequate and meeting relevant guidance. However, there were some opportunities for improvement noted and shared with the licensee but no significant deficiencies were identified.

The licensee's LC24 compliance arrangements meet 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. ONR identified that there are specific procedural improvements required relating to preparation, review and amendment of operating instructions. Consequently, ONR judged that the licensee's LC24 arrangements and their implementation were below standard. ONR shared the inspection findings with the licensee and we will seek assurance that the areas for improvement are being addressed through the Nuclear Safety Improvement Programme (NSIP).

2.1.8 Licence Compliance Inspection – LC36 (Organisational Capability)

ONR undertook an inspection on the DRDL licensed site to evaluate the extent to which the licensee complies with the requirements of LC36. The inspection was targeted on the revised arrangements for deriving and managing the nuclear baseline, along with the implementation of these arrangements in a pilot area.

ONR found that DRDL's LC36 compliance within the pilot area has improved since the last inspection carried out in July 2015. DRDL's organisational capability team has undertaken a lot of work in a short time-frame to make these improvements. Notwithstanding this, a number of areas for improvement were identified and ONR judges DRDL's compliance with LC36 to be below standard. ONR's inspectors found it encouraging that DRDL was aware of the shortfalls and is planning to address them during 2016.

ONR's judgement applies only to the arrangements and their implementation in the pilot area. However, DRDL has committed to implementing the revised arrangements across the whole organisation by September 2016 when a further ONR inspection of DRDL's compliance with LC36 is planned. ONR will explain our expectations to DRDL and will follow this up through routine engagement prior to the next LC36 inspection.

2.1.9 Licence Compliance Inspection – LC11 (Emergency Arrangements)

ONR carried out a planned inspection to determine the extent of DRDL's compliance with Licence Condition 11: Emergency Arrangements. The inspection focussed on the emergency training programme and emergency facility and equipment maintenance.

ONR found that DRDL is applying a systematic approach to training and has developed processes to manage and maintain the emergency response capability. However, ONR identified areas for improvement including visibility of training status of external resources, better IT capability to support training records and post profiles, and strengthening of competency assessment where appropriate. ONR also found that the arrangements for maintenance of the emergency equipment and their implementation were adequate and that the Emergency Arrangements assets are included on the Site asset care register.

Overall, ONR judged that DRDL has adequate arrangements for emergency training and for maintenance of emergency facilities and equipment.

2.1.10 Radioactive Waste Management

ONR continues to hold a regular quarterly waste meeting with DRDL and HM Naval Base Devonport. The meeting set-up will be renewed in 2016 to focus on on-going waste management on the site, and waste metrics, with brief updates on specific projects. If specific projects need more discussion stand-alone meetings will be held. For example, a stand-alone meeting has been arranged between DRDL and ONR to discuss the Disposal and Recycling of Redundant Equipment (DRRE) team capability, including: the staff resource profile and

impact of change, team specialist skill sets and role profiles, links to health physics and how technical Suitably Qualified and Experienced Personnel (SQEP) will be maintained over the next five years.

ONR, EA and DNSR have held a meeting to discuss expectations for the Nuclear Utilities Building (NUB) improvement programme scope and strategy. Also, MOD is writing a specification for technology trials to support a project to treat and dispose of ion exchange resins from Rosyth and Devonport. Several companies and technologies have been identified to start work on trials which are expected to be complete by March 2017.

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).

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 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 (NEMSFAC). The notice required actions to be taken by 31 January 2016.

There has been regular engagement on the closure of the IN with the licensee and draft arrangements for the control of radiological work were given to ONR in July 2015. ONR assessed the adequacy of the arrangements and agreed with the licensee that if the arrangements were formalised and implemented it would be sufficient to close the IN. The licensee piloted the arrangements with final implementation and training during December 2015, informed ONR that the corrective actions had been completed, and requested closure of the IN. ONR will carry an IN closeout inspection during the first week in January.

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. The following LIs have been issued during the period:

Table 1

Licence Instruments and Enforcement Notices Issued by ONR during this period

Date	Type	Ref No	Description
30/10/15	LI	560	Agreement to changes in the safety case to include additional assessment of fault sequences from seismic-induced building collapse
18/12/15	LI	561	Agreement to implement plant modifications for the purpose of undertaking phase 1 Vanguard Class deep maintenance period (refuel) activities in 9-Dock

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

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.

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