|  |
| --- |
|  |
| ONR Site Report  Rolls-Royce Submarines Limited – Nuclear Fuel Production Plant, Raynesway & Neptune Reactor, Raynesway |



ONR Site Report

Rolls-Royce Submarines Limited - Nuclear Fuel Production Plant, Raynesway & Neptune Reactor, Raynesway

Report for period: 01 July – 31 December 2022

Authored by: R Wilson, Nominated Site Inspector

Approved by:

Issue No.: 0

Publication Date: August 2023

ONR Record Ref. No.: 2023/41419

Foreword

This report is issued as part of ONR's commitment to make information about inspection and regulatory activities relating to the above site available to the public. Reports are distributed to members for the Rolls-Royce Submarines Limited (RRSL) Local Liaison Committee (LLC) and are also available on the ONR website (<http://www.onr.org.uk/llc/>).

Site inspectors from ONR usually attend RRSL LLC meetings where these reports are presented and will respond to any questions raised there. Any person wishing to inquire about matters covered by this report should contact ONR.

Contents

[1. Inspections 4](#_Toc127973593)

[2. Routine Matters 4](#_Toc127973594)

[3. Non-Routine Matters 7](#_Toc127973595)

[4. Regulatory Activity 8](#_Toc127973596)

[5. News from ONR 9](#_Toc127973597)

[6. Contacts 9](#_Toc127973598)

# Inspections

## Date(s) of Inspection

ONR inspectors made inspections on the following dates during the report period:

* 27, 28 September;
* 13 October; and
* 17 November.

# Routine Matters

## Inspections

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 Energy Act 2013;
* the Health and Safety at Work etc Act 1974 (HSWA74); and
* regulations made under HSWA74, for example the Ionising Radiations Regulations 2017 (IRR17) and the Management of Health and Safety at Work Regulations 1999 (MHSWR99).

The inspections entail monitoring the 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. Inspections seek to judge both the adequacy of these arrangements and their implementation.

In this period, routine inspections of the Raynesway licensed sites covered the following:

* staff training, qualifications and experience;
* modifications to plant, equipment and safety cases;
* emergency preparedness; and
* incidents on the site.

Members of the public, who would like further information on ONR’s inspection activities during the reporting period, can view site Intervention Reports at [www.onr.org.uk/intervention-records](http://www.onr.org.uk./intervention-records) on our website [www.onr.org.uk](http://www.onr.org.uk).

Should you have any queries regarding our inspection activities, please email [contact@onr.gov.uk](mailto:contact@onr.gov.uk).

## Annual Review

In July 2022, ONR attended RRSL’s annual review, where RRSL considers its safety, environmental and operations performance over the year to identify areas of strength and areas for improvement. ONR noted that the review was a balanced and self-critical view of RRSL’s performance in 2021, identifying relevant learning and appropriate focuses for 2022. ONR highlighted the theme of constant programme pressure and the challenges that may present, especially in light of the capability and capacity challenges RRSL had already noted. ONR committed to regulating RRSL in an appropriately enabling way, where RRSL is seeking to deliver in a safe and compliant manner.

## Emergency Exercise ‘FOSSA’

In November 2022, a team of four ONR inspectors observed RRSL's emergency demonstration exercise 'FOSSA', making observations in the Emergency Control Centre (tactical), Bronze Command (operational), contact muster area, and technical cell, as well as observations of the deployed teams.

We observed good interaction between the Emergency Controller and the Deputy, good information flow into and through the Emergency Control Centre, and good use of technical resource to determine potential and actual hazards.  ONR judged it to be an adequate demonstration of RRSL’s emergency arrangements. Some learning points were noted, relating to difficulty with radio communications, timeliness of board updating, and access issues which contributed to the slow rescue of the crush injury.

## Nuclear Fuel Production Plant – Periodic Review of Safety

In November 2021, RRSL submitted its 2022 Periodic Review of Safety (PRS) of its Nuclear Fuel Production Plant (NFPP) site to ONR. The purpose of a PRS is to determine, by comprehensive assessment; 1) conformance to relevant good practice, 2) that risks remain ‘As Low As Reasonable Practicable’, 3) that safe operation will be maintained until the next PSR, and 4) that any safety improvements identified will resolve safety issues.

The majority of the ONR specialist inspectors, through their assessments, concluded that the PRS was adequate, as it had met the purposes of a PRS. Though one specialist inspector concluded that shortfalls against regulatory expectations in the PRS documentation existed, that inspector was satisfied that separate work undertaken by RRSL to close related regulatory issues was sufficient to conclude that, overall, RRSL had met the regulatory expectations of a PRS.

All ONR specialist inspectors concluded that based on their assessment sample, future operations could be supported. Therefore, based on the findings of ONR’s assessment work, ONR concluded that RRSL has carried out an adequate review of the NFPP site safety case, in line with regulatory expectations, such that continued operations at the NFPP site can be supported. ONR will maintain regulatory oversight and routinely monitor progress against the ONR recommendations identified and RRSL’s own Safety Improvement Plan via a dedicated regulatory issue.

## Other Work

In addition to the inspections listed in section 1.1, there were a number of other formally recorded interactions with RRSL, covering a wide range of topics, including: organisational change, organisational safety culture, periodic review, radioactive waste, supply chain/quality systems, radiation protection, the Neptune refurbishment project, and the Dreadnought Production Facility project.

The site inspector also held several meetings to progress routine regulatory business, such as regulatory issues database reviews, regulatory interface forums as well as (separate) meetings with the internal regulatory function. The site inspector continues to hold weekly meetings with senior RRSL management to ensure health and safety matters continue to be addressed appropriately.

The site inspector continues to hold periodic meetings with safety representatives, to support their function of representing employees and receiving information on matters affecting their health, safety and welfare at work.

# 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:

## Cutting Machine Liquor Ingestion – INF-2489

In August 2022, an event occurred in the contact shop in which an operator was carrying out cleaning activities on a cutting machine when a small drop of liquor entered their mouth. The cleaning was being done using demineralised water.

RRSL halted cleaning work on the machine, initiated an internal investigation and took a precautionary urine sample from the operator. That sample later showed a very small and minor dose had been incurred by the operator (0.004 mSv, which is 550 times lower than the average UK background dose of 2.2 mSv).

RRSL’s investigation identified that the operation was conducted without a written instruction on how to clean down the machine being available to the operator, and that there was no effective Radiation Risk Assessment in place. Improvement actions to address these findings (and others) have been recorded in RRSL’s action management system.

The ONR nominated site inspector will track the progress of these actions alongside RRSL’s other radiological protection improvement actions (see Enforcement Letter, ONR-EL-22-016, 25 October 2022, in the next section).

# Regulatory Activity

ONR 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 take a range of enforcement actions, to include issuing an Enforcement Notice.

The following LIs, Enforcement Notices and Enforcement letters have been issued during the period:

* Enforcement Letter, ONR-EL-22-016, 25 October 2022  
  ONR issued an enforcement letter to RRSL in response to an event where an effluent flowmeter was removed from the controlled area without sufficient justification that the internals of the flowmeter were free from contamination. This event (INF-1943) was reported in the previous LLC report (01 January – 30 June 2022)[[1]](#footnote-2).  
  The enforcement letter was served to highlight the significance of the loss of control in the monitoring and clearance of people, article or goods leaving the controlled area. The letter noted that a regulatory issue had been raised to track the progress of RRSL’s self-identified improvement measures.

**Table 1: Licence Instruments and Enforcement Notices Issued by ONR during this period**

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Type | Ref. No. | Description |
| 25/10/2022 | Enforcement Letter | ONR-EL-22-016 | Contact Shop Effluent Flowmeter Export |

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

# News from ONR

For the latest news and information from ONR, please read and subscribe to our regular email newsletter ‘ONR News’ at [www.onr.org.uk/onrnews](http://www.onr.org.uk/onrnews).

# Contacts

Office for Nuclear Regulation

Redgrave Court

Merton Road

Bootle

Merseyside

L20 7HS

website: [www.onr.org.uk](http://www.onr.org.uk)

email: [Contact@onr.gov.uk](mailto:Contact@onr.gov.uk)

This document is issued by ONR. For further information about ONR, or to report inconsistencies or inaccuracies in this publication please visit <http://www.onr.org.uk/feedback.htm>.

If you wish to reuse this information visit [www.onr.org.uk/copyright.htm](http://www.onr.org.uk/copyright.htm) for details.

For published documents, the electronic copy on the ONR website remains the most current publicly available version and copying or printing renders this document uncontrolled.

1. [Office for Nuclear Regulation (ONR) Site Report for Rolls-Royce Submarines Limited (RRSL) Nuclear Fuel Production Plant (NFPP) Raynesway and Neptune Reactor Raynesway Licensed Sites for period 1 January – 30 June 2022](https://www.onr.org.uk/llc/2022/rrsl-1-2.pdf) [↑](#footnote-ref-2)