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| 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: 1 January – 31 June 2023

Authored by: Inspector  
 Nominated Site Inspector

Approved by: Superintending Inspector

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Foreword

This report is issued as part of ONR's commitment to make information about inspection and regulatory activities relating to the 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.

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# Inspections

## Date(s) of Inspection

The ONR site inspector carried out inspections on the following dates during the report period:

* 26 & 27 January;
* 14 February;
* 11 May; and
* 17 & 19 May.

# 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 Raynesway licensed sites covered the following:

* examination, maintenance, inspection and testing;
* plant construction and/or commissioning;
* incidents on the site;
* radiological protection;
* radioactive waste management;
* quality assurance and records;
* conventional (non-nuclear) health and safety;

Members of the public, who would like further information on ONR’s inspection activities during the reporting period, can view site Intervention Reports at <https://www.onr.org.uk./inspection-records/index.htm> 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 May 2023, ONR attended RRSL’s annual review, where RRSL considers its safety, environmental and operations performance during the year to identify areas of strength and areas for improvement. ONR noted that the review was a self-critical view of RRSL’s performance in 2022, identifying relevant learning and appropriate focuses for 2023.

ONR provided advice to RRSL on the optics of its self-critical review, the pace of delivery of its recruitment and upskilling strategy, and the need to ensure the internal regulatory function continued to be well resourced in the face of wider resource demands. ONR has monitored RRSL’s progress through routine site inspector engagement.

## Other Work

In addition to the ONR inspections listed in Section 1.1, there were a number of other formally recorded interactions with RRSL, covering a wide range of topics, including: examination, maintenance, inspection and testing, conventional (non-nuclear) health and safety, radioactive waste management, 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 also 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:

## Contact Shop Inhalation Dose – INF-3060

In July 2023, an event occurred in part of the contact shop where the airborne activity exceeded the local investigation level. Following the incident, the area was cordoned off and RRSL began an investigation, with three employees identified who were potentially affected. Using biometric assay provided by an approved dosimetry service (ADS), doses to these individuals were low; less than 2 mSv (for reference, the average UK annual background dose to a member of the public is 2.2 mSv).

Following discussions with the nominated site inspector, and on receipt of the dosimetry results, RRSL ceased operations in the area to undertake further investigations. The ONR nominated site inspector will track the progress of this investigation and determine if further regulator attention is required.

## Unintended Release of NOx – INF-2772

In February 2023, following sequential chemical handling operations, an unwanted chemical reaction occurred in an external sump, which produced a cloud of oxides of nitrogen (NOx). Due to the negative pressure in the adjacent facility, the NOx was drawn into the facility, setting off the toxic gas alarms.

All personnel successfully and safely evacuated the facility and there was no risk to nuclear safety or the public; no radioactive material was involved. The incident was reported to the regulator immediately after the occurrence. RRSL has initiated a formal investigation, the output of which will be provided to the nominated site inspector. Upon receipt and review, the inspector will determine if further regulatory attention is required.

# 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.

* No LIs, enforcement notices or enforcement letters were issued during this period.

# 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

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