

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
Report for period 1 January – 30 June 2022

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 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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1. Inspections

1.1. Dates of Inspection

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

- 16 & 17 March
- 23 & 24 March
- 14 June

2. Routine Matters

2.1. 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:

- examination, maintenance, inspection and testing;
- staff training, qualifications and experience;
- emergency preparedness;
- radiological protection;
- 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 www.onr.org.uk/intervention-records on our website www.onr.org.uk. Should you have any queries regarding our inspection activities, please email contact@onr.gov.uk.

2.2. Level 1 Partial Redemonstration Exercise 'FOSSA'

At the Level 1 demonstration exercise 'FOSSA' in November 2021¹, ONR judged that the lack of situational awareness in the Emergency Control Centre (ECC) led to shortfalls in the emergency response. ONR judged that this was caused by sub-optimal information flow within the ECC and over involvement of the ECC controller in the detail of the event. Therefore, ONR raised a level 3 regulatory issue and required RRSL to undertake a partial redemonstration, focusing on the ECC.

¹ [Rolls Royce Submarines Limited annual demonstration of emergency management capability exercise \(onr.org.uk\)](http://www.onr.org.uk)

The redemonstration was undertaken in March 2022², where ONR judged that RRSL had demonstrated improvements in both the information flow and situational awareness during the redemonstration exercise. The improvements allowed the closure of the associated regulatory issue.

2.3. Neptune Modification Project Pre-Construction Safety Report (PCSR) – Release of Hold Point

In May 2022, ONR agreed to the release a regulatory hold point on the installation of the plant and equipment for the Neptune modification project. As per the approved permissioning strategy, this holdpoint was controlled through 'Enhanced Implementation Monitoring & Control'. This was because of the relatively low nuclear safety hazard this stage of the project presents, but recognising the future role that the plant and equipment will play in the delivery of nuclear safety.

ONR sampled documentation submitted by RRSL across several disciplines, including civil engineering, criticality, fault studies, radiological protection and human factors. As is common for significant nuclear projects, ONR has raised regulatory issues to track the recommendations arising from the specialist inspectors' assessments to track action taken during the project completion. The most significant finding relates to the use of the existing civil structure, when compared to current, relevant good practices (modern civil engineering codes), which has attracted its own regulatory issue. RRSL is making reasonably practicable improvements to the structure and ONR will continue to engage with RRSL as the project continues to track completion and closure of the recommendations, as considered appropriate. Further regulatory hold points have been set prior to operation of the reactor.

2.4. 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 variety 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 site safety representatives and 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.

² [Level 1 redemonstration exercise Licence Condition 11 \(onr.org.uk\)](https://www.onr.org.uk/level-1-redemonstration-exercise-licence-condition-11)

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. Clean Shop Fixture – INF-1682

RRSL found that it was unable to complete nuclear safety required examination, maintenance, inspection and testing on a lifting fixture used for a new operation. RRSL recognised that the event is similar in nature to a previous event (INF-1429, reported in the 2021 Q3-Q4 report³), and stemmed from the inadequacy in the same documentation as that earlier event. The same corrective action for the earlier event is considered appropriate for this event, and the necessary corrections across the safety case documentation are underway.

ONR is satisfied that the risk to nuclear safety was low and RRSL's response was adequate.

3.2. Item removal from controlled area – INF-1943

RRSL is currently undertaking an investigation into an event where a flowmeter was removed from the controlled area without sufficient justification that the internals of the flowmeter were free from contamination. The flowmeter remained on the nuclear licensed site. RRSL introduced an additional layer of checking on future justification for item removal from the controlled area with immediate effect and is currently reviewing earlier item removals from the controlled area to understand the extent of condition.

ONR is satisfied that the risk to safety from this event was low, and that the licensee's response so far is adequate. ONR will continue to engage with RRSL following the conclusion of RRSL's investigation.

³ <https://www.onr.org.uk/llc/2021/rrsl-3-4.pdf>

4. 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.

ONR did however release a hold point for the continued installation of plant and equipment on the Neptune modification project, via 'Enhanced Implementation, Monitoring & Control'. Further detail is provided in section 2.3.

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

5. News from ONR

For the latest news and information from the Office for Nuclear Regulation, please read and subscribe to our regular email newsletter 'ONR News' at www.onr.org.uk/onrnews

6. Contacts

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