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 2021

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 enquire about matters covered by this report should contact ONR.

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1 Inspections

1.1 Dates of inspection

ONR inspectors undertook inspections relevant to the RRSL licensed sites on the following dates during the report period:

- 1, 3, 8, 10 & 15 March (modular inspection)
- 23 & 24 March
- 20* & 21 April
- 18* & 19* May
- 22* June

* An ONR inspector was on-site on this occasion.

2 Routine Matters

Inspections

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 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 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 at RRSL covered the following:

- quality assurance and records
- plant construction and/or commissioning
- incidents on the site
- modifications to plant, equipment and safety cases
- emergency preparedness
- periodic safety review.

In general, we judged the arrangements made and implemented by the site in response to safety requirements to be adequate in the areas inspected. However, some improvements were considered necessary and the licensee has made satisfactory commitments to address the issues, which the site inspector will monitor

progress during future visits. Where necessary, we will take formal regulatory enforcement action to ensure that appropriate remedial measures are implemented to reasonably practicable timescales.

2.2 Improvement notice ONR-IN-20-02 closure

In May 2020, we served RRSL with an improvement notice (IN) relating to RRSL's failure to ensure that operations were at all times controlled and carried out in compliance with operating rules, which meant that the relevant criticality control certificate was not met.

In May 2021, ONR undertook an intervention to gather evidence to support RRSL's assertion that sufficient improvements had been made. We concluded that RRSL had demonstrated evidence of a robust process for the management of its response to the IN, including a suitable governance process. We judged that RRSL had made sufficient improvements against each of the IN schedule items to justify closure of the IN.

2.3 Site annual review

In April 2021, the ONR site inspector and ONR superintending inspector attended the RRSL site annual review. At the review, RRSL presented an honest appraisal of its safety performance throughout 2020, and how its activities in 2021 would be informed by that performance. Key themes discussed included: a rapid response to the coronavirus pandemic, progress (and learning) made on capital projects, identification of improvements in control and supervision of RRSL operations and contractors, and identification of improvements in delivery of quality investigation reports.

Other work

In addition to the inspections listed in section 1.1, there were a further 44 formally recorded interactions with RRSL, covering a variety of topics, including: organisational change, organisational safety culture, periodic review, radioactive waste, 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.

When ONR inspectors are on site, COVID-19 controls on the RRSL licensed sites continue to be evaluated. RRSL's response to COVID throughout the period is considered to be appropriate. Use of the proximity hubs to help enforce social distancing and enable a track and trace system continues, though a declining rate of use over the period has been observed.

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 note during the period were:

3.1 Criticality control certificate (CCC) breach – INF 2021/69

Following an operation in the contact shop that saw elements placed onto a designed trolley, it was observed that too many elements had been placed onto the trolley – exceeding the both the operational working limit and the CCC limit. This kind of CCC breach has been observed previously in the past two years, and a similar breach was the defining event for the serving of the IN (see section 2.2).
In this instance, the ONR site inspector accepted RRSL's arguments that the margin to safety was high, given the low value of the CCC and other unaffected protection measures. The CCC limit was in the (administrative) process of being raised to an assessed, higher limit when the breach occurred.
RRSL currently has a site-wide improvement plan in place to bring improvements to criticality control and the ONR site inspector maintains oversight of the progress made in its implementation.

3.2 Periodic review of design substantiation reports – INF 2021/213

During work contributing to the Nuclear Fuel Production Plant (NFPP) licensed site's periodic review of safety (PRS), RRSL identified that the examination, maintenance, inspection and testing of a number of plant items was not implemented correctly in the plant maintenance schedule, and some safety actions had not been proceduralised into work instructions.
The ONR site inspector accepted RRSL's arguments that despite the omission, the plant items were being inspected appropriately, and being driven by asset care requirements, rather than nuclear safety requirements. In one instance, an immediate inspection was undertaken, which provided confidence that the plant item was in accordance with design assumptions.
ONR will be assessing the NFPP PRS later in 2021.

3.3 Fire cladding removal – INF1 2021/309

During a walk down of the Dreadnought Production Facility, it was noted that a section of fire cladding had been removed from a roller shutter door. It was later determined that the cladding had been absent since at least June 2018 to allow for installation of heavy equipment at that time. The cladding forms part of the safety functional requirement of the building to withstand an external fire.
Minor preventative actions were undertaken outside the roller shutter door (e.g. reducing items stored in the area and excluding vehicle access) and a justification for continued operation was made.
The ONR site inspector judged that the safety significance of this cladding missing is low, on the basis of the low likelihood of a significant fire adjacent to the roller shutter doors. The site inspector will engage with RRSL on the need to replace the cladding, or if another option reduces risk as low as reasonably practicable.

3.4 NFPP safety case outstanding issues – INF1 2021/469

As part of the NFPP PRS, RRSL has identified 32 'outstanding issues' (OI) that have either been closed without sufficient evidence against them or on the basis of further work which has not been completed. RRSL has conservatively chosen to report this via the INF1 route given the number of OIs, rather than the individual significance of each.

The ONR site inspector sampled the most significant OI of the 32, which related to the non-implementation of a safety case for a particular plant item. Despite the non-implementation, RRSL was able to demonstrate that the maintenance and testing that the implemented safety case would require, had been conducted through other safety requirements in place.

The ONR site inspector considered that the risk to safety was low. The ONR site inspector was satisfied with RRSL's arguments, and also RRSL's proposal to resubmit the OIs against the current (improved) OI process to ensure that each has sufficient evidence for closure.

4 Regulatory Activity

ONR may issue formal documents to ensure compliance with regulatory requirements. Under nuclear site licence conditions, we issue regulatory documents, which either permit an activity or require some form of action to be taken; these are usually collectively termed 'licence instruments' (LI) 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.

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

5 News from ONR

Below are summaries of key activities over the last three months. Further detail is available on our website.

Covid-19 (Coronavirus) (ONR position)
We are continuing to obtain assurance that nuclear site licensees and other dutyholders are adequately resourced to continue to safely and securely carry out their activities. We remain satisfied with industry's response at this time and there has been no significant change to dutyholders' safety and security resilience.

All licensed sites are required to determine minimum staffing levels necessary to ensure safe and secure operations and contingency arrangements in the event that these levels are not met. This condition is specifically designed to ensure that industry can adequately manage and control activities that could impact on nuclear safety and security under all foreseeable circumstances, including pandemics.

Although ONR staff continue to work primarily at home, (carrying out as much of our work as possible via videoconference, phone and email), we are carefully and progressively increasing our site footprint. We continue to assess our on-site presence in line with government guidelines and our business needs, ensuring we have a balanced portfolio of on-site inspections and interventions, that are important to support effective regulation across our purposes.

Our latest position can be found on our website.

Enforcement Action

- In April, we announced that EDF complied with a Direction we served on 14 December 2020, under the Pressure Systems Safety Regulations (2000). This followed an inspection, at which found a number of pressure system components at Heysham 1 Power Station were overdue their scheduled examination.
- In May, we agreed to extend an improvement notice served on EDF in September 2020, recognising the progress made so far. The notice was served after some of the equipment used to measure reactor power at Heysham 2 was incorrectly configured. We judged that Heysham 2 is able to operate safely, and that additional time to demonstrate the required improvements will not pose a risk to safety. EDF must now comply with the improvement notice by 31 July 2021.
- In June, we announced that Rolls-Royce Submarines Ltd (RRSL) had complied with an improvement notice served on 29 May 2020. The notice was served after RRSL operators brought 21 units of fissile material into the facility – which exceeding the limit defined within the safety case and set out in the Criticality Control Certificate for the facility.

Stakeholder Engagement

- In April, we published an article introducing our newest board member, Jean Llewellyn, who joined us in October 2020, as security lead. Jean brings with her a wealth of experience, including serving as a non-executive director on the board of the World Institute for Nuclear Security since 2018 – which has given her a good understating of the global security challenges facing the nuclear industry.
- In May, we issued our e-bulletin 'ONR News' to subscribers. This issue included farewell reflections from our outgoing chief executive, a leadership update, further information on our COVID -19 response, and the results of our latest stakeholder survey. You can sign up for our e-bulletin here
- On 1 June, we announced the full implementation of our new leadership structure. Mark Foy is now our combined Chief Executive and Chief Nuclear Inspector. He is supported by Sarah High as Deputy Chief Executive, and Donald Urquhart as Executive Director of Operations.
- In June, we published our new Corporate Plan for 2021/22, which sets out our key priorities to protect the public by securing safe nuclear operations.
- In June, our State System of Accounting for and Control of Nuclear Material (SSAC) project - which saw ONR become the UK's national nuclear safeguards regulator from 31 December 2020, was shortlisted for a national award in the Project Management Institute's UK National Project Awards in the 'Project of the Year (Public Sector)' category.

Nuclear safeguards are measures to verify that countries comply with international obligations not to use nuclear materials from civil nuclear programmes for non-peaceful purposes.

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