



ONR Site Report

Nuclear Restoration Services Ltd – Dounreay

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Report for period: 1 January – 31 March 2024

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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 above site available to the public. Reports are distributed to members for the Dounreay Site Stakeholder Group and are also available on the ONR website (<http://www.onr.org.uk/lrc/>).

Site inspectors from ONR usually attend Dounreay Stakeholder Group 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. Date(s) of Inspection

ONR site inspectors made inspections on the following dates during the reporting period 1 January – 31 March 2024:

- 23 to 25 January 2024
- 19 to 21 March 2023

2. Routine Matters

2.1. Inspections

Inspections are undertaken as part of the process for monitoring compliance with:

- the Energy Act 2013;
- regulations made under the Energy Act 2013, for example the Nuclear Industries Security Regulations 2003 and the Nuclear Safeguards (EU Exit) Regulations 2019;
- the conditions attached by ONR to the nuclear site licence granted under the Nuclear Installations Act 1965 (NIA65) (as amended);
- 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 legal compliance. 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 Dounreay covered the following:

- Life fire safety
- Electrical safety
- Construction, Design and Management (CDM) Regulations
- Asbestos safety
- Security interactions; and
- Safety walkdowns of a number of facilities

Members of the public, who would like further information on ONR's inspection activities during the reporting period, can view site intervention reports at [Publication search | Office for Nuclear Regulation \(onr.org.uk.\)](#) on our website www.onr.org.uk.

In addition:

- ONR's March inspection on Construction, Design and Management (CDM) Regulations confirmed that as the site has made sufficient progress implementing its CDM improvement plan, committed to following ONR's enforcement letter ONR-EL-21-044, the associated regulatory issue is now closed.
- ONR continues to remain informed on all major site activities that affect legal compliance and undertake proportionate assessment activities necessary to support the release of regulatory hold-points placed on a number of the projects on site.

Should you have any queries regarding our inspection activities, please email contact@onr.gov.uk.

2.2. Other Work

Site inspectors continue to conduct formal quarterly reviews of the site's progress in delivering a number of agreed improvement activities. Topics include:

- Dounreay's asset management arrangements
- Alkali metal storage and disposal arrangements
- Dounreay's arrangements for managing chemical inventory on site
- Electrical safety
- Establishing appropriate waste routes for hazardous waste materials
- Reporting and investigation of incidents and organisational learning
- Dounreay's decommissioning programme

Site inspectors 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.

3. Non-Routine Matters

Licensees are required to have arrangements in place 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.

Within this period, Dounreay reported the following safety events to ONR:

- Water has built up in the Prototype Fast Reactor (PFR) Surge Tank Pit, and samples of water taken from within the pit have confirmed elevated levels of tritium (15-18 Bq/ml). No other specific radionuclides have been detected. To contextualise the levels detected, these are nearly double that permitted by the World Health Organisation for drinking water (set at 10 Bq/ml). The source of elevated readings of tritium remains undetermined and investigations are continuing. Dounreay is undertaking a site level investigation. Site personnel confirmed that monitoring of the surrounding boreholes shows that there were no elevated levels of tritium in the surrounding ground water. ONR does not consider that the levels of tritium detected present a substantive challenge to the site in managing potential exposure to site personnel, and does not consider it presents a concern to persons off the site. ONR continues to monitor Dounreay's investigation into this matter.
- A worker on the site slipped during cold weather which resulted in an injury reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). ONR is aware a number of slip and falls have occurred on and around site in recent months, mainly due to cold weather conditions. ONR is content with Dounreay's response to this incident.

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. In addition, inspectors may take a range of enforcement actions, including issuing an enforcement notice. Within this period, ONR has:

- Served an improvement notice on Nuclear Restoration Services (NRS) for shortfalls in arrangements for storing alkali metals at its Dounreay site. Buildings used to store alkali metals, predominantly sodium, were leaking in rainwater - with pools observed where containers of these metals were being kept. ONR inspectors judged that the prolonged period of exposure to moist and damp conditions is resulting in degradation of the barriers for safe storage of these chemicals. Although nobody was harmed as a result of these shortfalls and there were no radiological consequences, ONR has concluded there was the potential for serious personal injury, if workers had been exposed to these hazardous materials.
- Issued an enforcement letter on NRS on workplace building integrity relating to water ingress and building temperatures in response to matters arising from health and safety walkdowns undertaken by ONR in December 2023. ONR identified significant environmental water ingress which caused corrosion of structural steel work and pressure systems and contact with live electrical systems. Further, Dounreay had been operating a facility for a prolonged period with low indoor workplace temperatures making for challenging working conditions for staff within the facility.
- Issued an enforcement letter to NRS on control of the risk presented by dangerous substances and explosive atmospheres regulations (DSEAR). This enforcement letter relates to matters arising from a life fire safety inspection carried out in January 2024 which identified shortfalls in the risk assessment process and mitigation measures applied for dangerous substances and explosive atmospheres. It was identified that there were no formal processes for update and review of DSEAR Assessments and that there was a lack of suitably qualified and experienced persons to produce and review DSEAR assessments.

ONR engagement with Dounreay continues on these matters to ensure appropriate resolution.

Dounreay submitted documents notifying ONR of its intent to modify a facility hazard categorisation and to allow recommencement of cell strip-out operations. ONR considered that Dounreay have appropriately reconsidered their safety analysis following revised information and have taken this through their appropriate due process. In light of predicted higher radiological dose consequences, in fault conditions, they have adopted additional safety measures to protect workers. ONR

considered the proposed modification to be appropriate and has had the appropriate level of internal challenge and due process. ONR is content that no further regulatory oversight is required to manage the risk from the proposed modification, and that Dounreay can proceed with implementation of the modification under their own arrangements.

Dounreay site has proposed to change its organisational structure (known as 'fit for the future') from 1 April 2024, in conjunction with implementing an up-dated lifetime plan for the site. NRS submitted a management of change (MOC) to ONR. As ONR has had extensive engagement and open and honest discussions with NRS Dounreay over the past 18 months including the development of the related MOC, it determined that further regulatory assessment of the MOC was not required. As such Dounreay can proceed with implementation of the modification under their own arrangements.

5. News from ONR

For the latest news and information from ONR, please read and subscribe to our regular email newsletter 'ONR News' at [Latest news | Office for Nuclear Regulation \(onr.org.uk\)](https://www.onr.org.uk/latest-news).

6. Contacts

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