

Quarterly site report for Dounreay Nuclear Licensed Site

1 October to 31 December 2012

Foreword

This report is issued as part of the Office for Nuclear Regulation's (ONR) commitment to make information about inspection and regulatory activities relating to Dounreay Nuclear Licensed Site available to the public. Reports are distributed quarterly to members of the Dounreay Site Stakeholder Group (DSSG) and are also available on the ONR website (www.hse.gov.uk/nuclear/llic).

Site inspectors from ONR usually attend DSSG and will respond to any questions raised there by the members of the group. Any other person wishing to inquire about matters covered by this report should contact the ONR.

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Inspections

ONR site and specialist inspectors made inspections on the following dates during the quarter:

01 to 04 October 2012
22 to 25 October 2012
05 to 08 November 2012
19 to 22 November 2012
03 to 06 December 2012
11 to 13 December 2012

Routine matters

Inspections at Dounreay Nuclear Licensed Site

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

- (i) The conditions attached by HSE / ONR to the nuclear site licence;
- (ii) The Health and Safety at Work etc Act (HSWA) 1974; and
- (iii) Regulations made under HSWA (for example the Ionising Radiations Regulations 1999 and the Management of Health and Safety at Work Regulations 1999).

This entails monitoring licensee's actions on the site in relation to incidents, operations, maintenance, projects, modifications, safety case changes and any other matters which may affect safety. The licensees/operators are 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.

Examination, Maintenance, Inspection and Testing

ONR inspectors carried out an intervention to consider the adequacy of DSRL's arrangements for asset management¹, including visits to three facilities to determine local progress and findings. This followed up an inspection in December 2011, summarised in the DSG Quarterly Report for October to December 2011. Inspectors concluded that DSRL had made progress and implemented a recognised asset care system when compared to the findings of an inspection in 2011. A number of observations were made as part of the intervention and these have been recorded as actions and communicated to the licensee. ONR will carry out further planned interventions in 2013/14 to assess sustained effectiveness of the asset care system, including how DSRL has addressed the identified actions.

Management of operations including control and supervision

Conduct of Operations - Reactors

ONR inspectors carried out inspections in DFR and PFR to secure confidence that the licensee's corporate arrangements for conducting its operations are being implemented properly and embraced by all levels of plant and project management. This work was undertaken jointly with

¹ The term asset management covers the high level processes for managing the creation, utilisation, maintenance and decommissioning and/or disposal of assets within the strategic objectives and management of the organisation. For more information on the application of this topic to nuclear fuel cycle facilities refer to HSE Research Report 912 'Management of Ageing, a framework for nuclear chemical facilities', available at <http://www.hse.gov.uk/research/rrhtm/rr912.htm>.

DSRL's Independent Assessment Team (IAT) to evaluate the effectiveness with which internal regulatory processes are deployed at a facility level.

ONR concluded that the site arrangements for conducting its operations are being implemented adequately across the reactor estate. There exists sound, clear leadership structure with respect to safety, supported by a positive safety culture. Many of the facets of these arrangements already existed before their implementation in 2008 but personnel at all levels of management reported the increase in discipline and focus to the principles therein. There is room for improvement in the application of more error prevention tools but this was already recognised by DSRL. The findings from the joint inspection provide additional impetus to DSRL to strengthen its independent challenge function in the area of frontline inspection.

Conduct of Operations – Fuel Storage Facilities

ONR carried out similar inspections at the fuel storage facilities within the Fuel Cycle Area. The inspector was impressed with the attitudes displayed and with the way that facility staff reinforced the messages in the conduct of operations arrangements. Facility staff saw these arrangements as beneficial to safe operations and they were clear that it applies to all staff. Evidently there are strong relationships between the facility manager and his staff.

For example there was good awareness of the need to raise unusual occurrence (UNOR) reports and to undertake SNOW (Second Nature, Observations at Work) conversations. Facility staff referred to the recent DSRL competition on raising SNOW conversations which has succeeded in raising awareness. We also discussed emergency arrangements in the facilities, and it was recognised that the arrangements currently in place for the facilities, which are largely quiescent, will have to be revisited as the materials consolidation project gathers momentum.

Overall DSRL displayed sound leadership of the fuel storage facilities, with an evident strong rapport amongst staff in the facilities. There was good evidence of there being in place appropriate arrangements for managing incidents and emergencies.

Modifications to plant, equipment and safety cases

Safety case implementation, FCA facilities

ONR reviewed safety case implementation in three facilities within the Fuel Cycle Area, concentrating on compliance with licence condition 27 (Safety Mechanisms, Devices and Circuits) and licence condition 34 (Leak and escape of radioactive material and radioactive waste). The inspector chose to examine a number of key safety related equipment and verified that maintenance of this equipment was being undertaken. The inspector also verified how leaks from the plant might be detected and was satisfied with the responses provided. Overall, evidence was provided of adequate maintenance and functional checks of safety mechanisms and that measures are in place to detect any leak or escape of radioactive material. The inspection provided confidence in DSRL's implementation of its safety cases and its compliance with licence conditions 27 and 34.

Plant construction and/or commissioning

ONR visited a new analytical laboratory that is being constructed to replace redundant or obsolete facilities. The inspector gained confidence that the design of the new facility had applied learning from current facilities. This included facility ergonomics, fume cupboard and glovebox design and analytical requirements. A project plan described a staged approach to the transfer of operations from the existing facilities to the new laboratories. The project was mindful that the capability to undertake statutory analysis had to be maintained.

Emergency preparedness

ONR inspectors observed and assessed the annual Level 1 (that is, a site-based) demonstration emergency exercise. This exercise was to have taken place in May 2012 but it was postponed at the time due to difficulties caused by an off-site electrical fault. ONR considered the scenario to be sufficiently challenging, and its simulation on the ground effective. The post-exercise debrief was thorough, with the licensee clearly identifying a number of areas for improvement which generally subsumed the issues noted by the ONR team. ONR wrote to DSRL conveying its overall conclusion that the exercise was a more than adequate demonstration of Dounreay's emergency arrangements. The letter also included recommendations related to areas for improvement identified in respect of the role and function of the emergency control centres, health physics support during casualty handling, and the management and operations of the Dounreay Fire, Ambulance and Rescue Service. ONR will review progress with these recommendations in 2013 as part of routine discussions on emergency arrangements.

Incidents on the site

ONR met with Head of Operational Experience Feedback (OEF) and Lead Investigator for a routine update on incident reporting and management. We discussed a recent waste posting cell incident during which an in-cell fire detector was activated. The Head OEF confirmed that such an event was considered in the safety case and that the response actions were appropriate. ONR considered that no further regulatory action was required. Discussions with members of the OEF team continued to give confidence that events are being adequately investigated and any learning promulgated.

Radiological protection

An ONR specialist Inspector met DSRL's site Radiological Protection Assurance Manager to discuss progress with actions arising from an inspection undertaken in May 2012 for compliance with the Ionising Radiations Regulations (1999). These actions related to the accountancy and labelling of radioactive sources held on site. The inspector judged that satisfactory progress had been made since the previous inspection. DSRL subsequently wrote to ONR confirming its position on each of the actions raised, and ONR is content that the actions can be closed.

Radioactive waste management

An inspection of low level waste (LLW) management was undertaken, jointly with SEPA. This demonstrated that LLW is being accumulated on site in an adequate manner, pending the restart of LLW compaction. In the future LLW will be disposed of in the repository that is under construction adjacent to the site.

ONR inspected the on-site LLW store. This contained a number of containers of compacted and non-compactable wastes. The conditions of storage were considered to be satisfactory. The record system was demonstrated to ONR and a sample of container records inspected: the system appeared satisfactory and covered the life-cycle of the waste from its point of production.

ONR considered that DSRL had demonstrated an adequate standard of compliance against licence condition 32 (Accumulation of radioactive waste) and has action in hand to overcome the requirement for increased interim storage pending the restart of LLW compaction.

Decommissioning

ONR met with the managers of facilities within the Fuel Cycle Area to discuss the decommissioning programmes for these facilities. This included consideration of DSRL's plans for remediating sentencing tanks and for removing residual radioactive material currently stored within the facilities. The inspection also included discussions on decommissioning techniques and the provision of a new ventilation system to facilitate decommissioning. The inspector found an adequate standard of compliance against licence condition 35 (Decommissioning) within the sampled facilities.

Organisational Changes

ONR considered the management of organisational change (MoC) associated with the proposed formation of the Technical Directorate, to verify compliance with licence condition 36 (Organisational capability). DSRL wishes to separate 'doers' (in Technical Directorate) from 'checkers' (in Assurance Directorate). At present the MoC for the formation of Technical Directorate is being pursued ahead of that for Assurance Directorate, and ONR noted the potential for gaps to appear in Assurance if the respective MoCs are not taken in parallel. This point is to be considered further by an ONR specialist inspector.

Safety Representatives

ONR inspectors met with safety representatives during the quarter from organisations employed across Dounreay, including DSRL and their contractors. We took the opportunity to discuss initiatives for safety representatives to have a greater influence and role within internal audit and inspection.

In general the arrangements made and implemented by the site in response to safety requirements were deemed to be adequate in the areas inspected. However, where improvements were considered necessary, satisfactory commitments to address the issues were made by the licensee, and the site inspectors will monitor progress during future visits. Where necessary, formal regulatory enforcement action will be taken to ensure that appropriate remedial measures are implemented to reasonably practicable timescales.

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. There were no matters of note to report.

Regulatory activity

Under health and safety legislation, ONR site inspectors, and other HSE inspectors, 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 issue enforcement notices to secure improvements to safety. One LI was issued during the period:

Licence Instrument No. 516 was issued on 6 November 2012 approving amendments to the site's emergency plan.

Further information relating to regulatory decisions can be found on the ONR website (www.hse.gov.uk/nuclear/pars).

News from ONR

Insight into more of ONR's work as an independent regulator of the nuclear industry can be found in ONR's Quarterly News (<http://www.hse.gov.uk/nuclear/onr-quarterly-report.htm>). The online publication reports on key themes and developments in each of the regulatory programmes of work and provides an update on ongoing changes at ONR as it progresses toward becoming an independent statutory corporation. Regular news and updates are available on the ONR website (<http://www.hse.gov.uk/nuclear/index.htm>), together with information about our people, sites that we regulate and the work that we do, as well as key guidance and resources.