

Quarterly site report for Dounreay Nuclear Licensed Site

1 April to 30 June 2011

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/llc).

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

The ONR Site Inspectors made inspections on the following dates during the quarter:

18-21 April 2011

2-5 May 2011

23-26 May 2011

13-16 June 2011

27-30 June 2011

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 the 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. In this period routine inspections of site covered:

New incident reporting procedures

ONR recently issued new guidance on notifying and reporting incidents and events occurring on licensed nuclear sites. DSRL had prepared a business case to implement the revised criteria. DSRL were ensuring their site arrangements will meet the new ONR notification guidance and giving themselves time to prove the arrangements work in practice.

Health Physics

An ONR Radiological Protection Inspector met DSRL's Radiological Protection Assurance Manager. The manager stated that there had been no radiological events at Dounreay during the last year. The inspector found, from the information provided, that the Dounreay site arrangements for and implementation of radiation protection measures was adequate.

Leakage and escape of radioactive material and radioactive waste

During the operation of some facilities small amounts of radioactive material had seeped into the concrete base mats. Decommissioning provides the opportunity to bring such material back into the control of DSRL. The inspection carried out was to confirm that this was being achieved. The evidence provided by DSRL indicated that they had been

successful in reducing contamination so far as reasonably practicable in the areas addressed. The inspector will carry out further inspections as the work progresses.

Electrical Isolations

The site inspector considered the arrangements for electrical isolations to verify they take into account the need for nuclear safety considerations both directly on the plant in question and indirectly on plant that might be affected by the isolation. The arrangements contained requirements to assess the effects of an isolation on other areas and on safety alarms and circuits rendered inoperative or the effects on other areas and systems. Overall the arrangements appeared to be robust.

Examination, Inspection, maintenance and testing

The inspector inspected the arrangements for equipment being handed back once maintenance had been completed. It was found that there was room for improvement to ensure that plant items out of service were received back into service by a suitably qualified person. In addition it was found that there were differences in the process applied at different facilities. DSRL was planning a review of the works control system that will take into account variations in practices in maintenance hand-back arrangements. Progress will be reviewed during a future inspection.

Modification on existing plant

The inspector reviewed DSRL procedures for dealing with modification to existing plant. DSRL has a common system across the site for this. The facilities sampled gave no significant concerns with regard to this aspect of safety. However, there was found to be room for improvement in close-out of some documentation. The inspector is seeking improvement proposals from DSRL.

Operating Rules

Facilities have safety case derived limits and conditions imposed on them. Compliance with limits and conditions is through operating instructions and routine operator checks, supported by management oversight meetings. The means for ensuring compliance with the limits and conditions were found to be adequate.

Dounreay Resilience to loss of services

Resilience to loss of services is essential to sustain nuclear safety. ONR sought assurance that facilities had suitable and sufficient independent safety measures to respond to foreseeable events involving loss of primary services. This was separate a separate point to testing facilities' resilience to severe accident scenarios. ONR inspectors accepted DSRL's argument that there were no significant design basis accidents associated with loss of services, which was demonstrated for real during a recent total loss of off-site power supplies.

Proof testing

Proof testing is ensuring that systems in total work as expected when demands are imposed on them. It is not sufficient to test components separately and assume that they will work successfully together when needed. Corporate arrangements were found to be adequate. However, there was room for improvements in physical testing of systems in facilities.

Control of Organisational Change

Control of organisational change is important so that safety is maintained. Aspects of this are therefore inspected on a regular basis. During this quarter, DSRL provided the inspector with information on what happens once a change is implemented. After a few months when the change has bedded in DSRL undertake an independent review of its effect. This allows corrective action to be undertaken if unforeseen problems are found. The inspector considered this to be a good practice that should be considered by other licensees if they do not already do similar checks.

Safety Representatives

The inspectors regularly met with Safety Representatives during the quarter from organisations employed across Dounreay, including DSRL and their contractors. The impression gained was that employers appreciate the work of Dounreay Safety Representatives and generally provide sufficient resources for their work. The site inspectors emphasised that ONR valued the work of Safety Representatives.

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. Matters of particular note considered during the current period include the following.

Inspectors witnessed two site-wide emergency exercises during the quarter, one with a focus on safety and one with a focus on security. The inspectors found that DSRL demonstrated the adequacy of the new co-located Dounreay Emergency Control Centre, Fuel Cycle Area Incident Control Centre, Emergency Radiological Incident Centre and Personnel Accountancy Bureau. In addition, the changes to the manning levels of the four co-located facilities were found to be adequate.

The main learning points from last year's safety-related exercise were highlighted during the exercise briefing and taken on board during the exercises. In addition to the many improvements a number of areas for further improvement were noted by both DSRL and the inspectors and DSRL were quick to put in place actions to achieve this.

ONR Fire Safety Inspectors also witnessed the safety exercise and met with the DSRL Chief Fire Office to discuss current levels of emergency response provision on site. In addition, Fire Safety Inspectors observed the practical application of command and control and operational procedures during the exercise and considered the performance of the Dounreay Fire Service a good standard of operational competence against the emergency scenario witnessed. The exercise demonstrated several areas of good practice.

On 23rd May Scotland north of Inverness suffered a loss of electricity for over two hours. DSRL staff, equipment and procedures worked well and ensured the site remained safe both during the loss of off-site power and during the recovery phase.

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.

No Licence Instruments were issued to the licensee during the quarter.

Reports detailing the above regulatory decisions can be found on the ONR website (www.hse.gov.uk/nuclear/pars).

ONR update

Nick Baldwin was appointed as the interim Chair of ONR with effect from 1 April 2011. He was the chief executive of Powergen until 2002, having joined the company in 1989 and having held a series of board-level and senior management positions. Until recently he was a non-executive director of Scottish and Southern Energy and the Nuclear Decommissioning Authority. The interim Chair appointment is expected to be for a period of two to three years, pending the successful passage of legislation to establish the ONR on a statutory basis. Nick is Chair of the ONR Board which has corporate responsibility for ensuring that the ONR fulfils the aims set out in the Framework Document, and the objectives and key performance measures agreed under it. This document sets out the framework under which ONR will operate as an agency within the wider HSE and constitutes the authority for the conduct of its operations.

The first meeting of the ONR Board was held on 20 June 2011.

Further information about the ONR Board and a copy of the Framework Document can be found under the Board pages of the ONR website <http://www.hse.gov.uk/nuclear>

Fukushima and the UK nuclear industry

On 12 March 2011, the Secretary of State for Energy and Climate Change, asked Mike Weightman, HM Chief Inspector of Nuclear Installations, to produce a report on the implications for the UK nuclear industry of the accident that took place at the Fukushima Dai-ichi nuclear power station in Japan. The purpose of the report is to identify any lessons to be learnt for the UK. This work will be taken forward in co-operation and co-ordination with national stakeholders and international colleagues. The Secretary of State asked for an interim report by the middle of May 2011, with a final more comprehensive report to be published in September.

ONR established a dedicated project team and technical support team to look at aspects of the Fukushima event that were likely to be important learning lessons.

In addition to the internal team ONR actively sought assistance from a wide range of organisations and issued a broad invitation to anyone able and willing to assist. In order to provide independent technical advice to the Chief Inspector during the production of the interim report, a wide range of stakeholders were asked to nominate an expert to attend an

ONR technical Advisory Panel (TAP). The TAP provided valuable input to the interim report and will continue to provide advice as ONR completes the final report.

The interim report, 'Japanese earthquake and tsunami: Implications for the UK Nuclear Industry' was published on 18 May and concludes there is no need to curtail the operations of nuclear plants in the UK but lessons should be learnt. It identifies 25 recommended areas for review - by either industry, the Government or regulators - to determine if sensible and appropriate measures can further improve safety in the UK nuclear industry. These include reviews of the design and layout of UK power plants, emergency response arrangements, dealing with prolonged loss of power supplies and the risks associated with flooding. A 26th recommendation calls for plans to be published by the middle of June detailing how each of the 25 recommendations will be addressed.

The project and technical support team are now working on the final report (Final submissions were requested by 15 June).

Further information, including a copy of the interim report and details of the technical advisory panel is available on the ONR website: www.hse.gov.uk/nuclear/fukushima/