

Quarterly site report for Dounreay Nuclear Licensed Site

1 January to 31 March 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:

10-8 January 2011

24-27 January 2011

7-10 February 2011

7-10 March 2011

21-25 March 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:

Restrictions on nuclear matter on the site and accumulation of radioactive waste during decommissioning

The Nuclear Installations Inspectorate as was and now the ONR with the Scottish Environment Protection Agency proposed the use of Radioactive Waste Management Cases (RWMCs) as a means of demonstrating compliance with a number of related regulatory requirements. DSRL were quick to recognise the benefits to their business of preparing RWMCs. They developed the process of preparing the cases and demonstrated that it produced documents of the right quality. Furthermore the process included review of the RWMCs over time and a prioritised programme to ensure a full set of cases will cover all the Dounreay higher activity waste streams. The inspectors and SEPA were impressed by the quality of work completed so far.

Risk assessment and system of work

Early in the quarter the inspectors raised a concern that DSRL might not clearly indicate in risk assessments the need to consider nuclear safety risks, in particular, potential indirect nuclear safety risks. For example, training for mechanical isolations appeared to make no mention of nuclear safety issues. DSRL agreed to take the necessary actions to correct the situation and the inspectors will undertake further inspections to monitor DSRL's

progress. Further inspections at the end of the quarter demonstrated good progress on the recognition of the need to consider nuclear safety risks during mechanical isolations. DSRL indicated they would consider whether nuclear safety risks were properly reflected in other work activities.

Operational Experience

Operational experience is a valuable source for learning about and improving safety of nuclear facilities and activities. DSRL provided the inspectors with updates on progress with post-change reviews and investigation findings for several unplanned events. The inspectors recognised that new training was being delivered to staff who can be members of event and accident investigation teams. This should improve root cause analyses. DSRL is considering greater involvement of human factor specialists in the design and review content of this aspect of the training to ensure effective causal analysis. A related inspection of PFR found a positive approach to managing incident reviews, which resulted in advice on how to improve safety that was relevant to the whole site.

Emergency exercise

The inspectors witnessed an emergency exercise in one of the facilities on site. The exercise afforded a good opportunity for staff to practice skills that would be needed if a real emergency occurred.

Safety documentation

The inspectors attended a Dounreay Site Safety Working Party meeting that reviewed some safety documentation. The Working Party came to the meeting well prepared and actively pursued improvements to the documents before it.

Another inspection considered safety case arrangements and processes that demonstrated the presence of assurance in the process and that the facility management understood the implications of the safety case on work activities. Also the safety and engineering specialist resources embedded within facilities should help to ensure consistent, informed safety case production.

Periodic review

DSRL provided the inspectors with an overview of its strategy for preparing second cycle periodic safety reviews for facilities. The inspectors suggested that DSRL should consider the implementation of the results of a gap analysis and consider potential vulnerabilities associated with plant interactions. The inspectors were satisfied with the high level strategy for the safety reviews.

Operating Instructions

The inspectors undertook a walk-down of a new ventilation system. The inspectors found aspects of good practice in the design of the alarm response instructions. These had been developed and implemented to effectively and simply manage the diverse potential alarms that the system could generate for different fault conditions. There was also evidence of the attention to detail that DSRL had employed in all aspects of the ventilation system.

Operating Rules and operational instructions

A previous inspection highlighted that a facility fell short of meeting good practice in the application of operating rules and the measurement of plant parameters. A follow-up inspection during this quarter indicated that DSRL had made progress in correcting the

shortcomings. Much good work was noted some of which will take time to be completed and rolled out across the site. As a result further inspections will be undertaken in future.

Management oversight of modifications to existing plant

An inspection early in the period indicated that DSRL had further work to do on management oversight of modifications to existing plant. The inspectors recognised the complexity of this and suggested the use of effectiveness reviews to check oversight across the complete life cycle of a modification. Later inspections indicated DSRL had made progress in improving oversight.

Management of change

DSRL demonstrated to the inspectors that they were alert to and actively implementing improvements in their management of change processes. This included six month post change reviews to confirm that the overall change was a success, which in turn had led to a number of spin-off improvements. The learning from the reviews was captured by DSRL by revision to the management of change arrangements.

The inspectors asked DSRL to consider the process of rating the importance of changes to ensure that significant changes were recognised appropriately and thereby receive the appropriate governance. DSRL agreed to review this.

Leakage and escape of radioactive waste

The inspectors undertook a joint inspection with SEPA of facilities where during operations radioactive waste had seeped into the concrete floor. A licence condition requires DSRL to ensure, so far as is reasonably practicable, that radioactive material and radioactive waste on the site is at all times adequately controlled or contained so that it cannot leak or otherwise escape from such control or containment. Decommissioning gives the opportunity to recover the waste and bring it back under the control of DSRL. Alternatively DSRL could make the safety case to regulators for leaving the waste in the concrete by demonstration that the concentrations of radioactive waste out of control are insignificant.

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 inspector emphasised that that NII valued the work of Safety Representatives.

Leadership and Management for Safety

DSRL has an excellent health and safety record based on standard industry measures. However, the inspectors reminded DSRL that having low personal injury rates does not always provide a true picture of process safety performance and the health of the safety culture (a key finding of the BP Texas City Final Investigation Report). During the quarter, the inspectors linked licence condition inspections with leadership and management for safety indicators. This highlighted areas of potential improvement. DSRL responded positively to these findings and are actively seeking ways to make improvements. The inspectors will continue to look for indicators of DSRL's effective leadership, management and oversight of nuclear safety and radiation protection.

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.

DSRL was actively looking at ways to improve emergency arrangements on the site and made significant progress towards implementing improvements.

A lightning strike on the site damaged some electronic equipment across the site. DSRL informed the inspectors of the event and this was followed up during the next visit to site. The visit confirmed that DSRL was quick to ensure the affected services were covered by alternative arrangements until repairs were completed and replacement equipment installed. In addition DSRL looked for reasonably practicable ways to implement improvements to lightning protection on the site.

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).

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be recovered in charges from operators in the nuclear industry rather than funded by the public purse. Additional organisational costs will be entirely met by the nuclear industry.

Pending the legislation, the Health and Safety Executive has established ONR as a non-statutory body from 1 April 2011, signalling its commitment to secure an appropriately-resourced and responsive regulator for the future challenges of the nuclear sector. The Government will review the functions and processes of the interim body in order to inform its planned legislation.

Following this announcement, work is ongoing to continue the move to ONR. However, business as usual remains unaffected. If you have any further questions, please contact ONRenquiries@hse.gsi.gov.uk.

Fukushima report

The Government has asked ONR for a report on the implications and lessons learned for the UK nuclear industry of the unprecedented events unfolding in Japan. ONR's Chief Inspector, Mike Weightman has full independence to determine the scope of the report and the arrangements for conducting it.

An interim report is due by mid May and the full report by September. These are technical nuclear safety reports and will assess the implications of the unprecedented events in Japan and establish if lessons are to be learned. The reports will not address nuclear or energy policy issues, nor will they be a wholesale review of nuclear safety in the UK.

Submissions from stakeholders with technical information or thoughts about any lessons that can be learned to enhance nuclear safety in the UK are welcomed. Please visit the ONR website (www.hse.gov.uk/nuclear) for further information.