



Office for Nuclear Regulation (ONR) Quarterly Site Report for Dounreay

Report for period 01 July 2014 to 30 September 2014

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 quarterly to members for the Dounreay Site Stakeholder Group (SSG) and are also available on the ONR website (<http://www.onr.org.uk/ilc/>).

Site inspectors from ONR usually attend Dounreay SSG meetings and will respond to any questions raised there. Any person wishing to inquire about matters covered by this report should contact ONR.

1 INSPECTIONS

1.1 Dates of inspection

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

7 to 11 July 2014
12 to 14 August 2014
18 to 21 August 2014
9 to 10 September 2014
22 to 25 September 2014

2 ROUTINE MATTERS

2.1 Inspections

2. 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 1999 (IRR99) and the Management of Health and Safety at Work Regulations 1999 (MHSWR99).
3. 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.
4. In this period, routine planned inspections of Dounreay covered the following topics declared in Appendix A of the ONR Plan for Regulation of the Dounreay Site in 2014/15 (DSG(2014)C040):
 - Management of operations including control and supervision
 - Modifications to plant, equipment and safety cases
 - Emergency preparedness
 - Radioactive Waste Management
 - Organisational capability

2.2 Management of operations including control and supervision

5. ONR undertook an inspection of control and supervision of operations at a fuel storage facility within the Fuel Cycle Area (FCA). The visit coincided with the start of a project to undertake physical inspections of items of fuel, and this project was used as an example of Dounreay Site Restoration Limited's (DSRL) approach.
6. The inspector observed the pre-job brief delivered to the project team immediately before the start of work. The brief emphasised the potential hazards and was considered appropriate for the task and the audience. The inspector reviewed the document pack associated with the project and found that there was a clear link between the respective safety case and the operational documentation at the work-front.
7. The project team included staff employed by a sub-contractor to DSRL but who work mostly full-time within the facility in question. The inspector talked to members of the team to gauge their views about safety culture within the facility and the approach to control and supervision by DSRL and their employer. The response was clear that the culture was good and that they are treated as if they were DSRL staff, and they displayed a good knowledge of the nature of the facility and the hazards represented.
8. The inspector concluded that the safety culture within the facility and the approach to control and supervision was good.

2.3 Modifications to plant, equipment and safety cases

9. ONR undertook an inspection for compliance with Licence Condition 22, Modification or Experiment on Existing Plant. This comprised a review of the site management systems for the control of modifications the implementation of these arrangements on two facilities within the FCA.
10. The inspection gave confidence that there is an adequate process in place for the management of modifications that may affect safety. The elements of the arrangements that were sampled appeared robust; there was evidence of independent monitoring and challenge. The facility inspections gave confidence that the arrangements are being adequately implemented and work suitably controlled.

2.4 Emergency Preparedness

System Based Inspection – Emergency Equipment

11. ONR undertook a system based inspection of emergency equipment at both site and facility level. This inspection is referenced 'System 5.1' in Appendix A of the ONR Plan for Regulation of the Dounreay Site in 2014/15 (DSG(2014)040).
12. A 'system based inspection' focuses on compliance with a complete safety system. In this particular case the inspection worked from the safety case for a particular facility and the arguments set forward for the provision of emergency-related equipment, and then considered the adequacy of that equipment.
13. The inspection considered the schedule of emergency equipment held on site. The facilities sampled were the Dounreay Fast Reactor, the Prototype Fast Reactor, and the Shaft and Silo. The inspection provided evidence that DSRL is managing its

emergency arrangements equipment at both facility and site level to an adequate standard.

Inspection for compliance with LC11, Emergency Arrangements

14. ONR undertook an inspection for compliance with Licence Condition 11 (LC22), Emergency Arrangements. The focus of the inspection was an issue which came to light in the 2013 and 2014 emergency exercises which revealed an apparent conflict between (a) managing casualties and the radiological release, and (b) securing a lockdown to minimise the security threat. The inspector was content that DSRL understands the importance of the lockdown issue and will explore the issue in its response to ONR comments on the 2014 emergency exercise.

Off-site emergency planning

15. In August, ONR Inspectors attended a meeting with Highland Council, DSRL and Vulcan Naval Reactor Test Establishment (NRTE). DSRL and NRTE Vulcan have separate off-site emergency plans prepared by Highland Council. Both sites undertake Level 2 exercises to demonstrate the adequacy of the arrangements made by the local authority to deal with the off-site aspects of an emergency. Highland Council is taking credit for testing some parts of the off-site plan for one site whilst undertaking a Level 2 exercise for the other site, with remaining aspects tested by other appropriate means. This allows the sites to alternate the hosting of Level 2 exercises that are undertaken to satisfy legal requirements to test the off-site plan at a suitable interval not exceeding three years. During the meeting, ONR made clear its expectation that Highland Council should demonstrate how the relevant aspects of both off-site plans are adequately exercised over a three year period, and Highland Council agreed to provide ONR with the necessary clarification.

2.5 Radioactive Waste Management

16. The site inspector, accompanied by a radioactive waste management specialist inspector, undertook a compliance inspection of site-wide compliance with Licence Condition 32 Accumulation of Radioactive Waste. The inspection included discussion on the developing waste management strategy and its challenges. We inspected a number of facilities on site where waste arises or is accumulated.
17. The facility inspections provided evidence that radioactive waste is being adequately managed in accordance with arrangements made under Licence Condition 32. This included at point of generation, characterisation and storage.
18. Whilst the radioactive management strategy is well developed, a number of key decisions are still to be made by DSRL to allow its implementation. In particular decisions are to be taken on the: acceptable packages allocated to each waste-stream; encapsulation strategy; contact-handleable intermediate level waste conditioning strategy; and size of the waste store. These decisions will have to be taken and adequately underpinned in a time-frame that meets the decommissioning programme in order to achieve Interim End State.

2.6 Organisational capability

Leadership and Management for Safety (L&MfS)

19. ONR undertook a planned intervention on L&MfS led by an ONR Specialist Inspector. This intervention was in support of Intervention Project MAR 042 set down in Appendix C of the ONR Plan for Regulation of the Dounreay Site in 2014/15 (DSG(2014)040).
20. The structure of the L&MfS intervention was to interact with DSRL peer groups including Directors, Leadership Team, plant managers, safety representatives, line managers, supervisors and operators. At all levels within DSRL the participants responded positively to the intervention and there was open and frank discussion. The key findings provided at the hot feedback identified evidence of a committed workforce who take safety seriously, a perceived disunity of leadership and lack of strategic direction reinforced by the Parent Body Organisation structure, and strong concerns about organisational resilience. ONR will provide DSRL with more detailed findings in due course. Our expectation is that, within DSRL's developing plans to achieve Decommissioning Excellence, there will be commitments to address our findings and ensure that there is a clear and consistent strategy to maintain satisfactory standards of nuclear safety and progress achievement of decommissioning milestones.

Management of Organisational Change

21. ONR undertook an inspection for compliance with Licence Condition 36 (LC36), Organisational Capability. DSRL confirms that its nuclear baseline¹ is maintained as a living document but recognises that it should be reviewed, to include lessons learnt from the management of change process. DSRL continues to develop organisational change proposals to take account of restructuring plans, the most significant being the creation of a site maintenance organisation. DSRL recognises that some personnel need guidance that the management of change process is to assess the impact of a proposed organisational change rather than to justify the decision. ONR concluded that DSRL had demonstrated an adequate standard of compliance and proactive engagement between the process owner and operational Directorates.
22. DSRL continued to brief ONR on the status of Annual Site Funding Limit (ASFL) deliberations. Additional funds have been secured for financial years 2014/15 and 2015/16 which allow progress to be made on Shaft/Silo and on FCA decommissioning, while work on fuel strategy projects remain unaffected by ASFL considerations. DSRL is on course to confirm its funding profile and rescheduled programme in November.

2.7 Other work

23. ONR inspectors met with safety representatives during the quarter from organisations employed across Dounreay, including DSRL and their contractors. In particular Dounreay safety representatives provided valuable contributions to a site visit by ONR senior managers and to the Leadership and Management for Safety Intervention reported above. Safety representatives provide ONR with a valuable insight as regards day to day operations and safety culture, and ONR very much values the contribution of safety representatives to nuclear safety at Dounreay.

¹ The Nuclear Baseline is the means by which the licensee demonstrates that its organisational structure, staffing and competencies are, and remain, suitable and sufficient to manage nuclear safety throughout the full range of the licensee's business.

3 NON-ROUTINE MATTERS

24. 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.
25. Matters and events of particular note during the period were:

Ventilation failure in laboratories, 15 September

26. ONR followed up a reported incident where isolation of an air pressure receiver for pressure testing caused an unplanned shutdown of the active laboratories' glovebox ventilation extract fans. The fans and associated dampers are designated as Key Safety Related Equipment (KSRE) under DSRL arrangements. (Equipment having the greatest impact on safety within a facility is designated KSRE). The laboratories had been evacuated on activation of the glove box air flow alarms in accordance with emergency instructions. The dampers had failed safe and natural ventilation continued. There was no release of radioactivity.
27. ONR gained an initial appreciation of the incident on 24 September, at which time DSRL's investigation had not been completed. This raised potential concerns. The work appeared to be undertaken without the nuclear safety implications of the task being properly recognised by personnel involved and without appropriate task specific safety documents being in place. ONR anticipates that the actions identified in response to the incident will seek to determine whether this is an isolated event or that there are underlying weaknesses in the process, or its implementation, for the identification of the nuclear safety implications of plant. ONR will consider the comprehensiveness of DSRL's findings and recommendations in determining any regulatory action.

Electrical power failure, 16 April

28. All electrical power was lost to the site for a period on 16 April. The power failure affected all of the north of Scotland. During the quarter ONR received DSRL's final report of the incident and are content that the incident has been properly investigated and appropriate action taken.

FCA incident 16 May 2014

29. During routine operations in a waste processing facility in the Fuel Cycle Area, a sodium light within a waste cell was removed from its holder and subsequently placed on the cell floor. Heat from the lamp caused a small quantity of adjacent waste to ignite. During the quarter ONR received DSRL's final report of the incident and are content that the incident has been properly investigated and appropriate action taken.

4 REGULATORY ACTIVITY

30. ONR inspectors, specialist inspectors and 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.
31. No LIs or Enforcement Notices were issued during the 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

32. Insight into ONR's work as an independent regulator of the nuclear industry can be found in ONR's Quarterly News. The online publication (<http://www.onr.org.uk/onr-quarterly-report.htm>) reports on the key themes and developments in each of ONR's regulatory programmes and provides an update about the ongoing changes at ONR. <http://www.onr.org.uk/index.htm>. For the latest news and updates from ONR visit the website and sign up for our ebulletin (<http://www.onr.org.uk/ebulletin/index.htm>).

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