



Dounreay Stakeholder Group
Site Restoration Sub Group Update Report
November 2014



Site Inspection Work & RSA Compliance

As previously reported, in March 2014 SEPA was notified about a potential issue in relation to gaseous discharges arising from fuel repackaging work that was being undertaken in the Prototype Fast Reactor (PFR) facility at Dounreay. It was believed that a fuel can that was being stored within a pond had been damaged and there was a potential loss of radionuclides into the pond water and for gaseous discharges of Krypton-85 and tritium to have taken place from the facility's authorised discharge stack. During the interim period between the initial releases of gas from the fuel can (in March) and the removal of the fuel can from the pond (in June) small increases in radiation readings above the pond occurred, indicative of further releases of gas from the fuel can. This indicated that the gaseous discharges from the fuel can did not all occur within the month of March and as a result DSRL considered it was appropriate to assign a portion of the discharges to several months, although the total reported amount of discharges has not changed. DSRL has now confirmed that based on the maximum activity of Krypton-85 and tritium present within the fuel can and the allocation of these discharges, the reported discharges of tritium in May and June will exceed a sub-limit for gaseous disposals from the site. The assessed tritium discharges arising from the fuel can are well below the annual authorised site limit. On the basis of the sub-limit compared to the actual authorised site limit and the risk assessments made against the authorised site limits, SEPA is confident that there is no risk to the public or the environment. SEPA has written to DSRL to request that DSRL undertake a detailed review of the site's arrangements for the sampling of authorised discharges.

In August SEPA undertook an inspection of Dounreay Site Restoration Limited's (DSRL's) arrangements for consigning liquid waste to its non-active drainage system and further inspection was undertaken in September. The inspections identified some shortcomings in DSRL's processes and arrangements. Some of the issues identified during the inspections had also been identified by DSRL and as a result DSRL produced a Forward Action Plan. SEPA will be assessing DSRL's compliance with its Forward Action Plan within the Compliance Assessment Scheme.

On 25 September DSRL submitted its discharge report for May 2014, the report was due to be submitted to SEPA by 29 August 2014. The discharge report for May 2014 is the first discharge report that encompasses the new stack height groupings and calendar month reporting requirements, as included in DSRL's new RSA authorisation. DSRL subsequently notified SEPA that the discharge report for June would not be submitted by the due date and that it was likely that the discharge report for July would also be submitted late. DSRL has produced a recovery programme and SEPA will be assessing DSRL's compliance with its recovery programme within the Compliance Assessment Scheme.

On 7 October SEPA was notified about a small fire that occurred in the sodium tank farm at the PFR facility and was subsequently extinguished by the on-site fire brigade. SEPA attended the site to discuss the radiological monitoring of the area and the assessment of any environmental

consequences with the operator. Initial review of DSRL's environmental monitoring results and the circumstances of the fire has indicated that there has not been a significant environmental impact as a result of the fire. SEPA's investigations into this are continuing.

Other Site Work

SEPA will be attending a two day workshop in Manchester along with the Office for Nuclear Regulation on the Best Practicable Means and Safety Case for the Unirradiated Fuels Characterisation Facility. This facility is key to the programme of consolidation of nuclear materials from Dounreay to Sellafield.

SEPA will be attending a meeting of the Magnox Operating Plan (MOP) Regulatory Forum in Warrington. The MOP is important with regard to the shipment of Dounreay Fast Reactor Breeder material to Sellafield for reprocessing through the Magnox route.

DSRL has recently developed an environmental improvement programme for Dounreay. The Dounreay Deputy Managing Director met with SEPA and presented details of the improvement programme.

During the evening of 7 October, there was a marine transport incident involving a ship that was carrying cemented radioactive waste from Scrabster to Antwerp. The transport of radioactive material (including waste) by sea is regulated by the Maritime and Coastguard Agency. The MCA is supported in this by Radioactive Material Transport specialists in the Office for Nuclear Regulation. During the incident SEPA monitored the situation and participated in the multi-agency teleconferences. It was established that the radioactive waste and its containment was not affected by the fire and remained under proper radiological supervision.

A Level 2 meeting, involving SEPA, Office for Nuclear Regulation (ONR) & DSRL is scheduled for 5 November. The Dounreay annual environmental review meeting is scheduled for 12 November 2014.

Low Level Radioactive Waste Facility

SEPA received and reviewed the submissions relating to the operational management plans and supporting documentation. In October SEPA undertook a review of DSRL's readiness to begin operations against RSA93 requirements. A number of shortcomings were identified and discussed with DSRL during the inspection. A further inspection of DSRL's readiness to begin disposal operations will be undertaken once DSRL have addressed these shortcomings.

Site End State

SEPA has provided formal written comments to DSRL regarding their Characterisation and Interim End State Compliance reports on Zone 1B which were submitted earlier this year. SEPA's comments relate not only to the content of the reports but also to our expectations of the content and structure of future zonal characterisation of the Dounreay site and its reporting. SEPA is also commenting on a number of other issues including DSRL's analytical methods which will be used for further characterisation work.

SEPA and DSRL will be undertaking the first of a number of technical meetings in November 2014 to discuss our regulatory expectations and DSRL's ongoing work.

Non-Nuclear Site Regulation

On 21 September 2014 as part of the inactive commissioning of the New Low Level Waste Facilities Encapsulation Plant a batch of grout was being made up. This involved transferring Pulverised Fuel Ash (PFA) from PFA silo number 2 to the mixer via a delivery line. During the transfer it was noted that there was a discrepancy between the expected and actual amount of PFA transferred. On investigation a quantity of around 15 to 20 kg of PFA was found under an inspection hatch in the delivery line. The inspection hatch was not fully secured and had released the PFA onto the concrete plinth below, which at the time was very wet due to heavy rain. The PFA release was confined to the local area, with no evidence of the PFA having spread beyond this area. The PFA underneath the inspection hatch was cleaned up.

There have been 5 potential instances where the CAR abstraction limits have been exceeded at the D3100 Low Level Waste Vaults during March and April 2014. In all cases, it was groundwater/ rainwater that is then pumped to the geosphere and ultimately discharged to sea. No environmental harm will have occurred as a result of this.

The daily abstraction limits were exceeded as a result of setting up the flow rate totalisers and testing the installed flood defence systems; in both cases the pumping system was temporarily switched off and in the latter, the apron at the vaults allowed to flood so as to activate the self-deploying flood barriers. Once the work was complete, the pumps were switched back on to remove the accumulated water and this action caused the breach.

Vulcan

The RS Unit Manager visited Vulcan along with the Site Inspector for an update visit. A routine inspection against conditions in the Letter of Agreement was carried out the following day along with a follow up on findings from a previous inspections. The inspection findings were satisfactory with the previous findings being closed out.

Stewart Ballantine

Radioactive Substances Policy and Nuclear Regulation Unit