

Low Level Waste Disposal Facilities



Updated Environmental Safety Case and
Application to vary Environmental Authorisation (Scotland) Regulations Permit



Dounreay Site Restoration Limited (DSRL) operates facilities for the disposal of low-level radioactive waste (LLW) adjacent to the Dounreay nuclear licensed site in Caithness, in the north of Scotland. These facilities are permitted for the disposal of LLW by the Scottish Environment Protection Agency (SEPA) under the Environmental Authorisations (Scotland) Regulations 2018 (EASR).

An Environmental Safety Case (ESC) has been developed which demonstrates that the public and environment will be adequately protected from the waste disposed within the facilities, both now and in the long-term. The EASR permit granted by SEPA makes reference to the ESC 2010, which was published prior to construction of the first phase vaults and then up-issued prior to the facilities becoming operational. The ESC will continue to be developed in an iterative manner with the staged design and construction of the facilities.

The permit sets out a series of conditions, including Waste Acceptance Criteria (WAC) that ensure that the assumptions within the ESC will be met. These WAC include limits on the total inventory of radionuclides that can be disposed within the facilities. These radionuclide limits are based on inventory estimates undertaken in 2009 and not on how much radioactivity can be safely disposed within the facilities.

It has become apparent that due to uncertainties in these estimates the limits set in the EASR permit are very restrictive with respect to some radionuclides. If the authorised limit is reached for any radionuclide, no further disposals of waste

packages containing that radionuclide can be made. This has led to the situation where DSRL cannot dispose of some decommissioning wastes, despite it being safe to do so. Furthermore, operational experience has identified instances where some permit conditions are no longer consistent with current regulations or are expressed such that compliance cannot be readily demonstrated.

DSRL has therefore applied to SEPA to vary the EASR permit so that risk-based limits are applied to ongoing disposals and to ensure that ongoing compliance can be readily demonstrated. This will allow disposal to continue without compromising safety to people or the environment. A complete review and update of the ESC has been undertaken in support of this application.

The updated ESC along with the application to vary the permit was submitted to SEPA in June 2021. SEPA are now assessing and consulting on this application. A non-technical overview of the facilities and the updated ESC is available to stakeholders.