

## NUCLEAR REACTORS (ENVIRONMENTAL IMPACT ASSESSMENT FOR DECOMMISSIONING) REGULATIONS 1999 (as amended)

### The Executive's Regulation 13 determination for Dounreay Nuclear Licensed Site – for Construction and Operation of Low Level Waste Repository

#### DECISION REPORT

##### Introduction

1. This document reports on the Health and Safety Executive's (HSE) determination that an Environmental Impact Assessment is not required for the change to the reactor decommissioning project at Dounreay Nuclear Licensed Site (Dounreay). The change to the project is to construct a purpose built Low Level Radioactive Waste (LLW) repository and the positioning; this is a departure from the original baseline for decommissioning. This determination is made under Regulation 13 of the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999 (as amended) (EIADR).
2. Regulation 13 (5)(a) of the EIADR requires that HSE must in writing inform the licensee and the Secretary of State of its decision; it must inform the public of its decision by publishing a notice in a local newspaper or by other such means, stating the main reasons on which the decision is based.

##### Background

3. The Dounreay site was opened in 1955 and three reactors were built over the ensuing 20 years: the Dounreay Fast Reactor, Dounreay Materials Test Reactor and the Prototype Fast Reactor. The reactors are no longer operational, with the last reactor ceasing operation in 1994. Management at the site is now focused on decommissioning of the reactors, ancillary nuclear facilities and the restoration of the environment. An integral part of the decommissioning process will be the requirement to manage the LLW that already exists at Dounreay and that which will be produced during site restoration. It is estimated that between 64,000m<sup>3</sup> and 109,000m<sup>3</sup> of packaged LLW and High Volume Low Activity (HVLA) waste will be produced from existing and new arisings. In addition, 33,000m<sup>3</sup> of LLW has already been disposed of on-site to the existing authorised disposal facility (Pits 1-6). If this waste is retrieved its conditioned volume will be 66,000 m<sup>3</sup>, giving a maximum total of 175,000m<sup>3</sup>. The existing authorised disposal facility is now full and LLW stores are being used to manage the packaged LLW on an interim basis.

UK national policy is to dispose of LLW in existing authorised facilities where available. However, on the 10th May 2005 the Scottish Environment Minister, announced a decision which stopped plans to move low level radioactive waste from Dounreay to Drigg, Cumbria. Ministers directed the Scottish Environment

Protection Agency (SEPA) to refuse the application by UKAEA at Dounreay for authorisation to dispose of solid waste to the national LLW facility near Drigg in Cumbria.

This decision necessitated the continued storage of LLW on the Dounreay site as UKAEA (now Dounreay Site Restoration Ltd (DSRL)) had no authorisation to dispose of operational or decommissioning LLW from Dounreay elsewhere. Solutions for the long-term management of both the already disposed and future LLW arisings are therefore a necessity.

DSRL estimate that the LLW facilities will facilitate an estimated £2.9 billion of programmed site decommissioning work over the next 25-30 years. DSRL have committed to consulting with Stakeholders widely on the final end use of the Dounreay site and this process has already begun within the Dounreay Stakeholder Group. The proposed LLW facilities allow DSRL (formerly UKAEA) to meet its requirements for waste treatment and disposal, enabling decommissioning to be implemented and ensuring that a properly restored, safe site is passed to future generations.

### **The Regulations**

4. European Council Directive 85/337/EEC (the Directive), as amended by Council Directive 97/11/EC and Council Directive 2003/35/EC, sets out a framework for the assessment of the effects of certain public and private projects on the environment and on public participation in respect of these. The Directive is implemented in Great Britain for decommissioning nuclear reactor projects by the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999, as amended by the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) (Amendment) Regulations 2006 (collectively EIADR in this report). Many other categories of project listed in the Directive are implemented by the Town and Country Planning (Scotland) Act 1997 amended by Environmental Impact Assessment (EIA) Scotland regulations 1999. The competent authority for EIADR in Great Britain is the HSE.
5. The intention of the Directive and EIADR is to involve the public through consultation in considering the potential environmental impacts of a decommissioning project, and to make the decision-making process on granting consent open and transparent.

### **Application of the regulations**

6. The EIADR apply to all decommissioning projects that began after the EIADR came into force on 19 November 1999. The EIADR require the licensee to undertake an environmental impact assessment (EIA), prepare an environmental statement that summarises the environmental effects of the project, and apply to the HSE for consent to carry out a decommissioning project. The EIADR also apply to existing decommissioning projects (those that commenced prior to 19 November 1999) that are subject to a change or extension, which may have significant adverse effects on the environment. In cases where a project is

subject to such a change, the licensee must apply to HSE for a determination as to whether an EIA is required and if one is, the EIADR apply, as for a new project.

### **Town and Country Planning legislation**

7. Where there are new structures to be built or substantial alterations to buildings, then these developments are likely to require planning consent. This will be obtained from the Local Planning Authority, i.e. projects that require planning consent at Dounreay include the construction of the radioactive waste store building. In Scotland this is regulated under the Town and Country Planning (Scotland) Act 1997 (as amended)) and enforced by the relevant local planning authorities. The construction of the LLW repository at Dounreay also required environmental impact assessment under the Town and Country Planning (Environmental Impact Assessment) Scotland Regulations 1999, which are administered by the Local Planning Authorities and implement the same Directive as EIADR.

### **The determination**

8. The licensee of Dounreay, Dounreay Site Restoration Ltd (formerly UKAEA), requested a determination under Regulation 13 of EIADR in March 2006 for the change to the decommissioning project at Dounreay for the construction of a purpose built LLW repository for the storage of waste from that site. The construction of the LLW store is also subject to the Town and Country Planning (Environmental Impact Assessment) Scotland Regulations 1999. In March 2006 the Licensee applied to the local planning authority, the Highland Council for planning permission for the construction and operation of a LLW repository. The planning application was accompanied by an environmental statement. Highland Council undertook a consultation (which included HSE) on the application and associated environmental statement which included the consultation bodies (Scottish Environmental Protection Agency (SEPA), Scottish Government, Scottish Natural Heritage, Historic Scotland, Scottish Water), other organisations and the public. The licensee submitted the planning application and associated environmental statement to the Highlands Council in parallel to submitting a Regulation 13 determination to HSE. The original submission was subject to a request by SEPA for an extension of the planning process supported by the licensee and the Highland Council; this led to an amended submission produced in March 2008 with changes incorporated. Following its consultation the Highlands Council granted consent for the construction and operation of the LLW repository on 27<sup>th</sup> April 2009. Further details on the consent and conditions attached to the consent are available at:  
<http://www.highland.gov.uk/yourcouncil/committees/caithnesssutherlandanddeastrossmeetings/caithnesssutherlandanddeasterrossplanningapplicationsandreviewcommittee/2009-01-13-cserparc-min.htm>
9. From HSE's consideration of the Environmental Statement originally submitted in support of the planning application under the Town and Country Planning (Environmental Impact Assessment) Scotland Regulations 1999 and the amended submission and following consultation with Statutory consultees, HSE is now of the opinion that no additional information is required to enable a

determination under EIADR to be made. HSE has made the determination that an Environmental Impact Assessment under EIADR is not required in respect of the change to the project. However, if the licensee were to make further changes to that which has been assessed in the addendum, the licensee would need to consider such a change under Regulation 13 for EIADR.

### **The main reasons on which the determination is based**

10. HSE took the following relevant factors into account when reaching its determination that an EIA is not required under EIADR. In brief, these were the adequacy of the information provided in the environmental statement submitted under the Town and Country Planning (Environmental Impact Assessment) Scotland Regulations 1999 and the adequacy of the additional information provided in support of the determination.
11. In HSE's view, the environmental statement and the statement addendum on, operation and closure of the LLW repository, in accordance with Schedule 1 and included:
  - Air Quality and Dust
  - Archaeology
  - Ecology
  - Geology, Hydrogeology and Soils
  - Landscape and Visual
  - Noise and Vibration
  - Socio-Economic
  - Surface Waters
  - Traffic and Transport
12. Archaeological impacts were reduced from the original statement assessment as the revised plans led to a smaller footprint and a slight relocation. This meant that the construction would be further from the areas of concern. Thus the amended plans changed the impact from moderate significant to negligible for the LLW repository. Socio-economic impacts were also examined in the assessment as the generation of the additional employment during construction is considered significant due to the local economy dependency on Dounreay. The proposal would provide for employment for a prolonged period when employment levels on the main site would be decreasing.
13. The environmental statement and addendum summarised all the environmental impacts describing their magnitude in terms of major, moderate, slight or negligible impacts, and their significance in terms of key significant, significant or

not significant. There were six areas where significant adverse impacts were identified. These were ecology and nature conservation, geology hydrogeology and soils, landscape and visual, noise and vibration, groundwater and surface waters and archaeology and cultural heritage. These effects varied in magnitude and duration. Mitigation measures are proposed to reduce or remove significant adverse impacts during the project. These mitigation measures combined with the changes to the repository plans lessened the impacts of the project. With the appropriate mitigation measures identified in the assessment this renders long-term effects negligible or not significant.

14. The construction, operation and eventual closure of the LLW repository under the revised design is such that the overall footprint of the vault areas has been reduced by half. A consequence is that the excavations will be deeper with the result that there will be considerable less surface working associated with the construction phases. This will result in a reduction in noise impacts. The revised design has resulted in the location of the proposed vault facilities and excavation being moved to the north towards the sea. This has the added effect of the development site moving further away from the nearest previously identified receptors, namely the properties to the rear of the former Dounreay Visitor Centre and at Buldoo. This change will also result in reduced noise impacts. This revision also lessens the impact on habitats and ecology, archaeological sites and also lessens the visual impact of the phases of the repository.
15. The licensee has indicated that monitoring of the effectiveness of the proposed mitigation measures will be discussed with the relevant bodies as appropriate. This will include the Highland Council in respect of traffic and of noise.
16. Highland Council carried out a consultation with the consultation bodies and other organisations on the environmental statement submitted under the Town and Country Planning Act (Scotland) 1997 and the Town and Country Planning (Environmental Impact Assessment) Scotland Regulations 1999. HSE decided that as the impacts assessed in the Town and Country Planning submission and the EIADR submission were not significantly different, following consultation nothing further was required under EIADR.

### **Transparency of the determination**

17. HSE's determination will be published in a notice in the locality of Dounreay power station, namely, The John O'Groats Journal and the Courier as required by Regulation 13(5)(b).
18. This report will be sent to the licensee the Secretary of State for Work and Pensions and made available on HSE's web-site ([www.hse.gov.uk/nuclear/index.htm](http://www.hse.gov.uk/nuclear/index.htm)).

### **Contact**

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