

Delivering Regulatory Consents for Decommissioning and Restoration of the Dounreay Nuclear Licensed Site

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ABSTRACT

On behalf of the Nuclear Decommissioning Authority (NDA) the United Kingdom Atomic Energy Authority (UKAEA) has implemented a strategy to translate the near-term Dounreay restoration plan into a suite of land use documents designed to deliver the necessary planning consents to decommission and restore the Dounreay Nuclear Licensed Site. The legal consents and authorizations required to enable UKAEA to commence major projects and progress the decommissioning of the site are highlighted along with the measures taken to secure political, public and regulatory acceptance at the earliest opportunity. The approach taken by UKAEA is explained, focusing particularly on the critical need to secure planning permission and stakeholder approval well before the onset of construction works. The intention is to realize the benefits of forging a close working relationship with the land use regulator, The Highland Council. UKAEA has taken an approach to suitably inform the planning authority, in particular, the production of the Dounreay Planning Framework (DPF) document. This paper describes the role and need for the DPF, focusing on the key purpose of amending the local development plan to secure supportive planning policies and to set a land use context for the subsequent site decommissioning and restoration. This also has the advantage of securing public acceptance through an established legal process. Strategic milestones subsequent to the Highland Council's adoption of the DPF are highlighted, including the submission of phased planning applications and compliance with environmental legislation generally. The paper describes and underscores the need for early engagement of other regulators in the planning process such as the Scottish Environment Protection Agency (SEPA), and the safety regulator, the Nuclear Installations Inspectorate (NII). It describes the linkages amongst land use consents, Best Practicable Environmental Options (BPEO), radioactive substances authorizations for disposal and compliance with nuclear site license conditions. It concludes with a review of the benefits of 'getting it right', highlighting the program and cost savings to be made particularly with UKAEA now under contract to NDA which took over strategic responsibility in April 2005 for managing UK civil nuclear clean-up.

INTRODUCTION

UK Government Radioactive Waste Management Policy requires all nuclear operators to draw up strategies for decommissioning their redundant plant and for managing radioactive wastes [1]. In September 2000, UKAEA published the Dounreay Site Restoration Plan (DSRP) [2], a comprehensive plan for the decommissioning and restoration of the Dounreay nuclear licensed site, a site that ceased energy production in 1994 and reprocessing of spent fuels in 1996.

The decommissioning of Dounreay is ground breaking work and involves innovative thinking, new types of projects and unique solutions. This work will be undertaken in distinct phases over the next 25 - 30 years and cost around \$5.2 billion. Decommissioning will be achieved by the progressive decontamination and dismantling of structures on site and subsequent restoration. It will involve many challenging projects including the provision of new plants for waste treatment & packaging and the treatment of nuclear materials to make them safe for long-term storage or disposal.

UKAEA's objective is that the site be made available for reuse by future generations or restored to a permanently safe condition that requires minimal institutional care.

The achievement of this objective is heavily dependent upon securing the necessary planning permissions and other regulatory consents. In the UK, planning permission is required to enable certain land use activities to be undertaken, including the building of new plants. This paper describes the groundbreaking strategy adopted by UKAEA to secure all necessary consents and approvals in a holistic and fully managed process designed from the outset to optimise prospects for success by engaging local government, regulators and the public in the evolution and development of the decommissioning of Dounreay.

The strategy recognizes from the outset the legal requirements for statutory approvals and consents, which in the case of Dounreay, include achieving planning permission, radioactive substances authorizations and environmental permits, whilst continuing to demonstrate compliance with relevant nuclear site license conditions and the identification and assessment of the cumulative environmental impacts associated with the decommissioning.

The early adoption of the strategy is designed to enable UKAEA to secure the 'buy in', or at the very least, the benign neutrality, of the regulators, whilst maintaining public confidence throughout.

The objective is to deliver the program to time and cost, and to be continually innovative in response to the NDA's objectives.

AUTHORISATION AND CONSULTATION ROUTE MAP

The evolution of the planning strategy commenced with the identification of all the UK and European statutory consents required to enable decommissioning. This task involved the generation of two distinct authorization and consultation route maps relating to new nuclear

build facilities and decommissioning of extant and redundant facilities. Fig. 1 shows a generic example of the key process steps making up a new nuclear build route map.

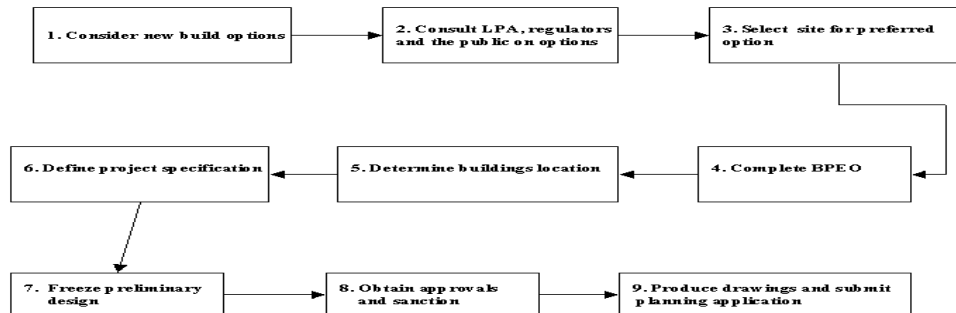


Fig. 1. Generic example of a new nuclear build route map

The route maps capture the legal and procedural requirements of the various authorization regimes and take on board the experiences of other operators in respect of both new nuclear and major civil infrastructure projects. This process indicates that although separate statutory regimes are involved they often interact and require ostensibly the same documentation and information. Hence it was decided to identify and satisfy these with the production of a single document, with the desirable aim of removing (or at the very least reducing) both program and resource expenditure.

Interrogation of the route maps demonstrated very quickly that a fundamental milestone would be the achievement of the necessary grants of planning permission. In the UK, experience of major infrastructure projects (such as the Sizewell 'B' Nuclear Power Station and the new Heathrow Airport Terminal – T5) is that they incur large program delays and, as a direct consequence, cost overruns. Given the scale and complexity of the Dounreay decommissioning and restoration program it was paramount that this risk be minimised.

As a direct consequence, UKAEA quickly considered the need to achieve planning permission as a high-risk milestone. Efforts to reduce this risk were undertaken, including the opening of dialogue with the local planning authority (i.e. local government) on the detail of UKAEA's plans. It quickly became apparent however, that whilst the restoration plans were widely, and correctly, regarded by the nuclear regulators as a blueprint for the decommissioning and restoration of Dounreay, in planning terms, it offered the Local Planning Authority (LPA) very little land use detail of consequence.

To address this UKAEA adopted a new approach to planning which comprised several related limbs, including:

- the submission to the LPA of a suite of draft land use policies for proposed adoption in the development plan;
- the production and promotion of a Dounreay Planning Framework document which aims to identify the land use implications of the near-term plan and, by means of a master plan, to set the context within which the LPA would consider future Dounreay planning applications;
- the adoption of a planning application strategy which recognizes and promotes the need for the practical division of the lifetime plan into distinct phases, and
- the identification and assessment of the cumulative environmental impacts associated with the decommissioning and restoration projects.

THE SCOTTISH PLANNING PROCESS

Principal Statutes and Regulations

Today's Scottish planning system stems from an Act of Parliament in 1947. The 1947 Act set up the first comprehensive and mandatory planning regime in Scotland. Since then there have been many changes to the planning system, but the fundamentals are the same as in 1947. The current primary legislation is contained in the Town and Country Planning (Scotland) Act 1997 (the Act) [9].

The Act defines the scope and structure of town and country planning in Scotland. It covers development control and the preparation of development plans

Meaning of “development”

A key concept in planning law is that of “development”. If a proposed land use activity does amount to “development” in legal terms then it is subject to planning controls and cannot go ahead without first obtaining a grant of planning permission.

The Act defines “development” as (1) “the carrying out of building, engineering, mining or other operations in, on, over or under land”; or (2) “ the making of any material change in the use of any buildings or other land”.

Applications & Permissions

Where a proposed land use activity amounts to development then it cannot proceed until an application for planning permission has been submitted to the local planning authority (LPA) and planning permission obtained. In making an application, the applicant has a choice. He can apply for detailed planning permission or outline planning permission. Once a valid planning application has been registered the LPA must proceed to determine the application in accordance with the policies contained in the development plan unless other material considerations indicate otherwise.

Structure Plans and Local Plans

LPAs have a duty to prepare a development plan. Development plan is a collective term used to describe two main types of planning documents known as the Structure Plan and the Local Plan. Structure Plans provide on a regional basis the strategic planning policy framework for Local Plans. Local plans, on the other hand, give a more detailed coverage of smaller specific geographic areas.

The responsibility for preparing and giving final approval to Local Plans lies with the LPA.

DEVELOPMENT PLAN

When determining planning applications LPAs are required to consider the policies within the development plan and to decide whether to grant or refuse the application on the basis of these policies (unless material considerations indicate otherwise). This means that there is, in effect, a presumption in favour of development that is assessed by the LPA to be in accord with the policies contained in the development plan.

This is a highly important point and UKAEA recognised the need to become actively engaged in the LPA's review of its development plan. The level of UKAEA's involvement was unprecedented, and nearly extended to an appearance at a local planning inquiry in direct opposition to Highland Council. Fortunately, however, UKAEA and Highland Council resolved their differences, and the development plan proceeded to adoption.

UKAEA's involvement in the development plan review process proved to be highly significant and strategically valuable. It secured a broad range of planning policy support for the decommissioning and restoration of Dounreay. In particular, it secured the adoption of two highly important land use policies. First, Policy W8 within the Structure Plan [3], which records:

“Highland Council's support for the decommissioning and environmental remediation of the Dounreay site. Proposals for treatment, conditioning, packaging and storage of waste arisings will be considered sympathetically, provided they are in accordance with a waste management strategy and incorporate retrievability and monitorability.”

And second, within the Local Plan [4], Policy 23(b) which records:

“Highland Council will work closely with the UKAEA to translate the decommissioning and restoration programmes described in the [DSRP], as approved by HSE and SEPA, into a land use planning framework for the timely, safe and environmentally acceptable decommissioning, restoration and after use of the Dounreay Site.”

The Local Plan policy being of particular importance to UKAEA in that it secured a policy 'peg' from which to hang future planning and environmental submissions. It was realized that these proposals needed to be coordinated and described in the context of the restoration strategy by producing an innovative land use plan.

DOUNREAY PLANNING FRAMEWORK

Having recognised that the technical program contained little land use information of any consequence, UKAEA set in train the production of a document specifically to capture and describe the land use implications of the decommissioning and restoration works, known as the Dounreay Planning Framework (DPF).

The DPF is a medium-term land use plan for decommissioning and restoration activities and primarily covers the area that constitutes the nuclear licensed site with secondary reference to other UKAEA-owned land. The primary aim of the DPF is to present information to Highland Council in support of applications for planning permissions in the context of an agreed planning strategy and to guide the subsequent development aspects of the decommissioning and restoration of Dounreay. It includes a master plan and development schedule.

The DPF outlines the main tasks associated with the decommissioning and restoration, subdividing the schedule into three main phases and identifying the new facilities needed to support decommissioning operations. It addresses the means by which uncertainty will be dealt with, the concept of the 'living' document and the decommissioning and waste management strategy adopted for the safe treatment, storage or disposal of future waste streams generated by decommissioning.

The DPF also sets the scene for the overall planning application strategy giving a detailed description of the developments associated with Phase 1. It identifies and explains the main tasks to be undertaken during this phase comprising decommissioning of reactors and other redundant facilities, the provision of new facilities for the treatment of waste and nuclear materials and site infrastructure improvements. It gives a detailed description of the Phase 1 development program and development schedule.

To assist the LPA and public in understanding the various regulatory regimes to which Dounreay is subject, the full version of the DPF gives a description of the National and European legislative and policy context for decommissioning and waste management at nuclear sites generally. It also describes the means by which such legislative requirements and policy considerations are enforced identifying the relevant regulators and a description of their roles.

The document acknowledges the importance of the 1998 Safety Audit, explains the role of safety cases and how NII regulates the decommissioning phase to the same high standard as that applied during the operation of a nuclear facility. There are sections on environmental and quality performance.

The DPF was successfully approved by the Council on 25 January 2006 as supplementary planning guidance to the Local Plan. The DPF summarises the national planning system and describes the local planning policy framework relevant to the decommissioning and restoration of Dounreay. It highlights specific development plan policies particularly Highland Council's commitment to work closely with UKAEA to translate the decommissioning and restoration programs described in the DSRP into a land use planning framework which can be positively managed to maximize the likelihood of successful delivery.

Finally, the DPF addresses the means by which it is proposed to secure the necessary statutory authorizations required for decommissioning, particularly planning permission. It describes the proposed planning application strategy and how this is supported by the development program, schedule of development and master plan. Reference is made also to the means by which planning applications will be accompanied by appropriate environmental impact assessments describing the main and likely significant effects of decommissioning and how the adoption of a conservative 'worst case' approach will enable land use aspects to be regulated.

PLANNING APPLICATION STRATEGY

In settling the planning application strategy, the alternative means available to UKAEA for the achievement of the necessary grant(s) of planning permission were examined, which included:

- development order, and
- planning application to Highland Council

The Scottish Ministers have statutory powers to issue secondary legislation development orders, which may be either general or specific to individual projects/developers. A clear benefit of a Specific Development Order (SDO) is that planning permission is granted without the need to submit a planning application to the LPA, removing the land use regulatory requirement to obtain approval for the development proposed from local government. SDOs do not however offer program savings because they require secondary legislation involving significant parliamentary debate at national level. Whilst the decision is taken at a national level, local government is able to exercise some control when approving subsequent design and other issues which may form the basis of planning conditions attached to the SDO.

SDOs are made as a result of a policy decision at national level. They are used to ease the regulatory passage of new infrastructure, such as new towns [5] and the provision of highly controversial development such as the BNFL nuclear plant for reprocessing uranium at Sellafield [6]. Scotland has not made any SDOs preferring to rely upon principal legislation [7].

The process for the making of a SDO does not extend to the holding of a public inquiry or indeed any public involvement, and whilst this may appear superficially attractive, UKAEA considered that for a project of the strategic and local importance of the DSRP it would be highly preferable to adopt an approach which would engage the public and other stakeholders. For this reason, UKAEA's adopted planning strategy includes seeking grants of planning permission from the LPA by means of lodging and publicizing planning applications.

Type & Number of Planning Applications

A fundamental issue to be resolved is the type and number of individual planning applications to submit. It is clear that the implementation of the decommissioning program is dependent upon the provision of a significant number of new facilities/plants, which in turn require planning permission. To accommodate the acquisition of these permissions in a cost effective and efficient means, and without placing an undue burden on the resources of the LPA and regulators, it was fundamental for UKAEA to consider the optimum means of making such applications and,

where practicable, reducing the number of individual consents required. To achieve this consideration was first given to the 'type' of planning applications to be made.

Detailed Application

A detailed (or full) planning application is one in which all matters of detail and design are stipulated and made available to the planning authority for its determination. Clearly, this approach requires substantial 'up front' resource and potentially exposes UKAEA to maximum commercial and project risk. It would not for instance permit design changes after the receipt of detailed planning permission.

Outline Application

In contrast, an application may be made for outline planning permission where it is sought to obtain the LPAs approval 'in principle' to the development before proceeding to draw up detailed plans. This approach offered UKAEA greater flexibility (and less risk) and was adopted as the preferred application 'type'.

The Need to Avoid Piecemeal Development

A final consideration for the application strategy related to the need to avoid seeking planning permission for individual developments on a "piecemeal" basis. Such an approach was neither sustainable nor desirable, and could be subject to refusal by the LPA and or legal challenge on the grounds of piecemeal development and failure to comply with Council Directive 85/337/EEC, as enacted in the Environmental Impact Assessment (Scotland) Regulations 1999 [8].

The strategy adopted avoids any suggestion of piecemeal development by producing a 'composite' planning application for each of the groupings in the three distinct time periods (or phases). This approach has the advantage of minimizing the call on the resources of the LPA and regulators, and ensuring full compliance with the EIA Regulations and where appropriate Strategic Environmental Assessment (SEA) [10] which is a process distinct from existing EIA because it concentrates on the environmental effects of plans and programs rather than specific projects and promotes sustainability.

Flexibility

Whilst promoting a coordinated approach, this strategy also includes flexibility to deal with a limited number of key projects in the early years of Phase 1 through prior approvals. Because of the advanced level of their planning work and their importance to our program, a few projects will be submitted ahead of the combined application. It is planned to limit the number of prior approval submissions. When prior approval applications are made, we will set these proposals within the context of the DPF. Supporting environmental work will address the main and likely significant impacts of each prior approval and cumulative assessments will take account of the effects associated with other consented projects.

IMPLEMENTING THE STRATEGY

This section describes how UKAEA will implement the planning strategy in order to achieve the optimum prospects for success (and thus minimize legal, program and cost risks) and highlight the steps that should be undertaken, and the need for careful and methodical preparation throughout. Implementation will include:

- Setting the Scene for Success;
- Preparation and consultation prior to submitting an application, and
- Promoting the submitted application.

Setting the Scene for Success

For a successful outcome, essential groundwork must be planned and carried out to a very high standard even before an application is prepared. Setting the context within which the development proposals are promoted is crucial to this. In this respect the Dounreay Planning Framework is a key document.

Every effort has been made to secure the LPA's joint promotion and adoption of the DPF as supplementary planning guidance. The process for adoption included consulting with the public and other stakeholders. Key to retaining the support of the LPA and the public will be the need to be seen to amend the DPF to reflect the reasoned comments of the public and others. UKAEA is committed to this cause.

Pre-Application Preparation and Consultation

UKAEA has embarked upon a series of pre-application consultation meetings with the LPA and nuclear regulators, SEPA and NII. The purpose of these meetings is to allow the LPA and regulators the opportunity to review successive drafts of the emerging Phase 1 planning application and accompanying environmental statement. In this way, it is hoped that any issues may be teased out and resolved. It is key to UKAEA's aspirations to deliver the program to time and cost, to actively and meaningfully involve the LPA and regulators as the planning application strategy evolves.

Promoting the Submitted Application

The submission of a planning application to Highland Council does not end UKAEA's involvement in the process. UKAEA will continue to monitor the progress of applications through the various committee stages and, if required, supply further information in support.

CONCLUSIONS

The accelerated restoration program at Dounreay is expected to take 30 years to complete and involve the integration of some 1500 separate but interdependent activities and cost in the region of \$5 billion. To achieve this challenge and to remain prime contractor UKAEA has embarked

on the implementation of a robust and methodical planning strategy following the NDA assuming control of UK civil site clean-up in April 2005. In practise UKAEA has limited real control over delivery of this program much of which is shared with other stakeholders and authorities, notably the Government, NDA, the planning authority and the regulators. Securing key regulatory and legislative consents is therefore, vital to successful delivery. To minimize risks and in particular the length, and uncertain outcome of the land use planning system, the strategy comprises a coordinated method of planning submission together with the DPF to act as a contextual guide for the planning authority. A major achievement was in securing the LPA's approval of the framework as supplementary planning guidance to the Local Plan; essentially it is now local policy. Inter alia, this will provide the confidence and assurance necessary for UKAEA to drive this program forward and to continue to generate employment and business opportunities in the Highlands

The Dounreay Planning Framework presents UKAEA and Highland Council with the opportunity, together with other organizations and stakeholders, to work in partnership to deliver a unique planning strategy for the decommissioning and restoration of Dounreay for the benefit of the local community and the wellbeing of the Highlands generally, whilst recognizing wider national interests.

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