

<b>Meeting:</b>	NuLeAF Steering Group, 3 February 2009
<b>Agenda Item:</b>	7
<b>Subject:</b>	Radioactive Waste Management and the Future of Nuclear Power
<b>Author:</b>	Fred Barker
<b>Purpose:</b>	To report on recent initiatives and proposed responses to (a) a discussion paper on the Funded Decommissioning Programme and (b) consultation on the application to justify new nuclear power stations

## **Introduction**

NuLeAF's remit encompasses all aspects of the management of the UK's nuclear legacy. This includes the implications for legacy management of any developments that are likely to impact on that management (including the management of radioactive wastes from new nuclear build).

In that context, this report considers:

- developments relating to the Government's proposals for a 'Funded Decommissioning Programme' for new nuclear power stations; and
- consultation on the Nuclear Industry Association's application for justification of new nuclear build.

## **Recommendation**

That the Steering Group endorse the proposed responses to (a) the discussion paper on the Funded Decommissioning Programme and (b) consultation on the application for justification of new nuclear build, as outlined in this report.

## **Contribution to Achieving Strategic Objectives**

The responses are intended to contribute to the achievement of the following NuLeAF objective: to seek to ensure that proposals for radioactive waste management and decommissioning of new nuclear power stations do not prejudice effective management of the nuclear legacy.

## **The Government's Funded Decommissioning Programme for New Nuclear Power Stations**

The Government is developing a Funded Decommissioning Programme (FDP) for new nuclear power stations. The following steps have been reported to previous Steering Group (SG) meetings:

- February 08: the Government published for consultation two sets of draft guidance on what a FDP should contain ([Consultation of FDP Guidance](#)).
- May 08: Following discussion at the April SG, NuLeAF comments were submitted on the draft guidance ([NuLeAF Consultation Comments](#)).
- September 08: The Government published a response to consultation comments ([Government Response](#)). This was considered at the October meeting of the SG.

During discussion at the October SG the issue was raised of whether the Government's response on the funded decommissioning programme had addressed the question of developer funding for community benefits. It was agreed that this should be followed up during further engagement.

The opportunity to do this came with an invitation to comment on a pre-consultation discussion paper, published by the Department of Energy and Climate Change in November ([FDP Discussion Paper 1](#)). The Executive Director responded by e-mail of 10 November as follows:

Thank you for opportunity to comment on the pre-consultation discussion paper on a methodology to determine how the fixed costs of building a GDF should be apportioned to and shared between operators of new nuclear power stations. One of the comments NuLeAF made during the consultation earlier this year on the funded decommissioning programme was that:

“... the full share of the costs of disposal of ILW and spent fuel to a Geological Disposal Facility (GDF) from new nuclear power stations should include a contribution to the associated community benefits package that is proportionate to the increased radiological inventory of the repository. This contribution should be included in the fixed unit price for disposal at the GDF.”

I note that this point was not addressed in the Government's response to the earlier consultation. The pre-consultation discussion paper does however propose that a new build operator's contribution to the fixed costs of the GDF should be in proportion to the use it makes of the GDF's capacity. It strikes us that the same principle should be applied to the contribution that a new build operator should make to the funding of a GDF community benefits package.

The Government has subsequently published a second pre-consultation discussion paper on a methodology for establishing an indicative fixed unit price for the disposal of intermediate level waste and spent fuel from new nuclear power stations ([FDP Discussion Paper 2](#)). This paper discusses the issues involved in seeking to identify a robust methodology. The key issues are about how to take account of the uncertainties in estimating the costs of disposal. These uncertainties include:

- the burn-up and heat load of spent fuel, which influences the space required in a Geological Disposal Facility (GDF);

- the type of packaging for the disposal of spent fuel;
- the tendency for project appraisers to be overly optimistic in estimating costs (known as “optimism bias”);
- the geology in which the GDF will be based;
- the number of new nuclear power stations that might be built;
- impact of new build wastes on GDF design (and hence on fixed costs); and
- whether a second GDF will be needed to accommodate new build wastes

In each case, the paper discusses options for addressing the uncertainty in the methodology for fixing a unit price. Overall, the paper states that a “high level of confidence will be required that a fixed unit price established by this methodology will exceed expected costs”.

It is recommended that NuLeAF respond by:

- welcoming the approach being taken in the discussion paper to identifying risks and uncertainties, and discussing options for addressing them;
- stressing the importance of the principle that there should be a high level of confidence that the fixed unit price will exceed expected costs;
- supporting the adoption of conservative or flexible approaches to each of the identified risks and uncertainties to ensure that the above principle is adhered to; and
- requesting that Government take an open and transparent approach to the further development of the FDP and its implementation.

A third discussion paper on the Government’s cost model is expected shortly. A full consultation on the issues covered by the three discussion papers will take place in the Spring.

### **Consultation on the Application to Justify New Nuclear Power Stations**

EU legislation requires that the Government must make an assessment to ensure that the benefits of a new practice involving ionising radiation outweigh any detriments to health. Decisions on this are taken by the ‘Justifying Authority’, which in this case is the Secretary of State for Energy and Climate Change.

The Secretary of State has received an application from the Nuclear Industry Association (NIA) for Justification of new nuclear power stations, covering four reactor designs that have been submitted to the UK’s regulators for generic design assessment. Government has subsequently launched a consultation on the NIA’s application and on the Government’s proposed approach ([Justification consultation](#)). Later in the year, Government intends to consult further on the Secretary of State’s draft decision.

Although the question of whether new nuclear power stations are justified goes beyond NuLeAF’s remit, the consultation does address questions of radioactive waste management and decommissioning (see chapter 5 in [NIA Application](#)).

It is proposed that NuLeAF’s response to the consultation include the following points:

1 The justification assessment should consider the implications of the potential use of MOX fuel in new nuclear power stations. This issue is omitted from the NIA application. Given that the NDA Plutonium Options assessment has kept this option open, it would seem appropriate for the application for justification to address the impacts of the potential use of MOX fuel. If a decision were taken to use MOX fuel at a later date, it may be that the decision would be open to challenge if the justification did not at this stage consider the

potential impacts of using MOX fuel. One of the potential impacts of using MOX fuel is on the size of the GDF footprint.

2 The application appears to assume that the disposal of new build spent fuel to the GDF would be unproblematic and asserts that the detriment arising from the resultant increase in footprint (50-70%) "would be small". The NIA have missed two important points here. First that there is a decision process to be gone through with local communities about whether new build wastes should be disposed of in the GDF. Second that there may be spatial constraints on the potential size of a repository in the volunteer area that militate against the disposal of new build spent fuel to a GDF in that location. In the light of this, we would suggest that the assessment process should consider the detriments associated with the potential need for a second repository for new build spent fuel.

3 The discussion of LLW management in the NIA application (paras 5.27-5.29) is out of date, and fails to take into account the capacity and status issues at LLW repository near Drigg and the problematic nature of siting new disposal facilities, or increasing the use of off-site facilities (notably landfill). These issues need to be addressed and taken into account in reaching a conclusion about "detriment".