

<b>Meeting:</b>	NuLeAF Steering Group, 27 January 2010
<b>Agenda Item:</b>	4
<b>Subject:</b>	Radioactive Waste Management and New Nuclear Build
<b>Author:</b>	Fred Barker
<b>Purpose:</b>	To propose a response to Government consultation on a draft Nuclear National Policy Statement (NPS) and associated documents

## **Introduction**

Following discussion at the Strategy Review Group in mid-December, this report proposes how NuLeAF should respond on the radioactive waste management aspects of the draft Nuclear NPS and associated documents.

The report outlines:

- The scope of the current consultations
- NuLeAF's strategic objectives relating to new nuclear build and previous responses to related consultations
- Key questions of concern to NuLeAF
- Proposed responses to consultation and other associated actions.

## **Recommendations**

That the Steering Group agrees:

- 1 To submit the response to consultation on the draft Nuclear NPS (as attached to this report at Annex B).
- 2 To submit the response to the consultation on the proposed justification decision (as attached to this report at Annex C).
- 3 To write to member local authorities in areas with proposed sites to draw their attention to the radioactive waste management issues that could be addressed in Local Impact Reports and to offer a meeting to discuss these issues.
- 4 To write to the West Cumbria MRWS Partnership to draw its attention to the issues most relevant to the siting of a Geological Disposal Facility.
- 5 To ask the secretariat to monitor those aspects of the Generic Design Assessment process that deal with the assessment of the quantities and types of waste that are likely to arise, their suitability for storage, transport and their disposability.

## **Contribution to Achieving Strategic Objectives**

The recommendations above are intended to contribute to achieving the strategic objectives set out in section 2 of this report.

## **1 Scope of the Current Consultations**

The Government has published a series of draft NPSs on energy infrastructure with a deadline for comment of 22 February. Subject to the consultation and Parliamentary scrutiny, the Government intends to formally approve the NPSs in 2010. They would then be used by the Infrastructure Planning Commission (IPC) when it makes decisions on applications for development consent for nationally significant energy infrastructure projects.

A substantial amount of nuclear-related documentation has been published by Government. References to these documents in subsequent sections of this paper use the abbreviations in brackets. Where appropriate, web links are also provided. The list of the main documentation is as follows:

- ‘Consultation on Draft National Policy Statements for Energy Infrastructure’ (NPS ConDoc), [NPS consultation document](#)
- ‘Draft Overarching National Policy Statement for Energy’ (EN-1)
- ‘Draft National Policy Statement for Nuclear Power Generation’ (Draft Nuclear NPS), [Draft Nuclear NPS](#)
- ‘Appraisal of Sustainability of the Draft Nuclear National Policy Statement Main Report’ (AoS Main) [AoS Main](#)
- ‘Habitats Regulation Assessment of the Draft Nuclear National Policy Statement Main Report (HRA Main), [HRA Main](#)
- ‘Strategic Siting Assessment for New Nuclear Power Stations: Summary Report on the Opportunity to Comment’ (SSA Summary), [SSA Summary](#)
- ‘The Arrangements for the Management and Disposal of Wastes from New Nuclear Power Stations: a Summary of Evidence’ (WasteDoc), [Waste Assessment](#)
- ‘Consultation on the Secretary of State’s Proposed Decision as Justifying Authority on the Regulatory Justification of the New Nuclear Power Station Designs currently known as AP1000 and the EPR’ (Justification ConDoc), [Justification ConDoc](#).

The NPS ConDoc explains that the primary purpose of the consultation is to ask whether the NPSs are fit for purpose: in other words, whether they provide a suitable framework for the IPC to make decisions on applications for development consent for energy infrastructure projects. It adds that the Draft Nuclear NPS also seeks views on the Government’s assessment of arrangements to manage and dispose of radioactive wastes. This issue is addressed in question 19 of the consultation questions in the NPS ConDoc ([Consultation Questions](#)) and in discussion below.

Note that the last document on the list relates to a parallel consultation on the Secretary of State’s proposed decision on the Regulatory Justification of new nuclear power station designs (the AP1000 and EPR). Regulatory Justification is a process required under the Justification of Practices Involving Ionising Radiation Regulations 2004. It involves a decision about whether a new class or type of practice resulting in exposure to ionising radiation is justified by its economic, social or other benefits in relation to the health detriment it may cause.

## **2 NuLeAF’s Strategic Objectives relating to New Nuclear Build and Previous Responses to Consultations**

NuLeAF adopted the following strategic objectives on the legacy management implications of potential new build at the AGM in October:

1. If Government continues to encourage the building of new nuclear power stations, to seek to ensure that its National Policy Statement is open and transparent about the interactions between new nuclear build and nuclear legacy management.
2. 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.
3. If proposals for new nuclear build continue to move forward, to promote debate about the interactions<sup>1</sup> with nuclear legacy management and the pros and cons of utilising these interactions to the benefit of nuclear legacy management. Any such use should be in accordance with the principle that the companies concerned meet the full cost of decommissioning and radioactive waste management liabilities that arise from new nuclear power stations. This debate should include how a more coordinated ‘across site’ approach could be taken in locations that have or are proposed to have multiple licensed nuclear sites.

The adoption of these objectives followed discussion at the Strategy Review Group on 23 September with Adrian Simper, NDA Strategy Director. The main points from that discussion are attached as Annex A.

NuLeAF has previously responded to a range of consultations relating to the radioactive waste elements of nuclear new build (with web links to the comments in brackets):

- |         |   |
|---------|---|
| 9/2/09  | ‘Consultation on the Justification for Building New Nuclear Power Stations’ ( <a href="#">Justification Comments</a> )                  |
| 3/11/08 | ‘Strategic Siting Criteria Comments’ ( <a href="#">SSA Comments</a> )   |
| 16/5/08 | ‘Comments on Consultation on Funded Decommissioning Programme Guidance for New Nuclear Power Stations’ ( <a href="#">FDP Comments</a> ) |
| 9/10/07 | ‘Comments on ‘The Future of Nuclear Power’’ ( <a href="#">NP consultation comments</a> )  |

The strategic objectives and previous consultation comments have been used to inform preparation of the questions and preliminary responses in the next section.

### **3 Key Questions of Concern to NuLeAF**

Given NuLeAF’s limited remit in this area, it would not be appropriate for it to directly address the primary purpose of the consultations, nor most of the consultation questions posed in the NPS ConDoc. However, based on NuLeAF’s strategic objectives and previous consultation comments, a range of questions do arise about the radioactive waste management aspects of the draft Nuclear NPS and associated documents. These questions are:

- 1 Is the draft Nuclear NPS open and transparent about the interactions with nuclear legacy management?
- 2 Are there any proposals that may prejudice effective management of the nuclear legacy?

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<sup>1</sup> Interactions in this context mean primarily the potential joint use of radioactive waste management facilities for legacy and new build wastes.

- 3 Does the draft Nuclear NPS and associated material contribute to debate about the interactions with nuclear legacy management and the pros and cons of utilising these interactions to the benefit of nuclear legacy management?
- 4 Is the Government's description of the current arrangements for managing and disposing of radioactive wastes reasonable and accurate?
- 5 Are there issues associated with the proposed arrangements for managing the radioactive wastes from new nuclear power stations that NuLeAF should comment on?
- 6 What is it legitimate for NuLeAF to say in response to the NPS ConDoc question 19: "Do you agree with the Government's preliminary conclusion that effective arrangements will exist to manage and dispose of the waste that will be produced by new nuclear power stations in the UK?"
- 7 What advice should NuLeAF give to member local authorities in areas with proposed sites about the radioactive waste management issues that should be addressed in Local Impact Reports prepared for the IPC?
- 8 What issues arise in the current consultations that should be drawn to the attention of the West Cumbria MRWS Partnership?
- 9 Has the Justification ConDoc taken sufficient account of NuLeAF's earlier comments on justification?

Each of these questions is considered in turn:

***1 Is the draft Nuclear NPS open and transparent about the interactions with nuclear legacy management?***

The answer to this question is 'up to a point'. Section 3.8 of the draft Nuclear NPS discusses radioactive waste management, focusing on the interim storage and geological disposal of higher activity waste, particularly spent fuel. On interim storage, the draft Nuclear NPS assumes that facilities will be constructed at each new build site for use up to the point when spent fuel is transported to a geological disposal facility (GDF) ie that there will be very little interaction. On geological disposal, the draft assumes that the spent fuel could be disposed of in a GDF that may be developed as a result of the current MRWS process (but acknowledges that two GDF facilities may be required, para 3.8.13) ie that there could be very significant interactions. The issues raised by these assumptions are discussed further below.

The draft Nuclear NPS does not discuss Low Level Waste (LLW) management but asserts that arrangements for effective management and disposal of LLW already exist, "as demonstrated by the experience of dealing with such wastes from existing nuclear power stations" (para 3.8.4). It therefore implies interactions without further elaboration. The robustness of the draft Nuclear NPS assertion about LLW management is discussed below, taking into account further statements in a number of associated documents, including the Appraisal of Sustainability (AoS Main) and the Waste Assessment (WasteDoc).

***2 Are there any proposals that may prejudice effective management of the nuclear legacy?***

It is arguable that there are three aspects of current proposals for new build that may prejudice effective management of the nuclear legacy. These are:

- The assumption that new build spent fuel will be disposed of to the GDF may not be welcomed by potential host communities and their decision making bodies. The

assumption has potential to become a ‘bone of contention’ and could impact on the GDF siting process.

- Insufficient sensitivity to the views of communities local to proposed ‘green field’ sites for new nuclear build (Braystones and Kirksanton in Cumbria) may impact on public opinion in that area on possible involvement in the GDF siting process.
- There is concern amongst local authorities about whether staffing levels in nuclear legacy management can be maintained, if people working on NDA sites seek employment in new build projects.

These issues are highlighted in the proposed response to Q26 in the NPS ConDoc (see Annex B).

**3 *Does the draft Nuclear NPS and associated material contribute to debate about the interactions with nuclear legacy management and the pros and cons of utilising these interactions to the benefit of nuclear legacy management?***

Given the purpose of the Nuclear NPS and associated material it is not surprising that the answer to this question is no.

AoS Main acknowledges that some impacts from new build cannot be “fully disassociated from the development and implementation of strategies to address UK legacy radioactive waste, and a new build programme may integrate into these where appropriate” (para 6.94). However, there is no discussion about what integration might be appropriate. This might most appropriately be pursued in advice that NuLeAF could give to member authorities in areas with proposed sites (see discussion under Q7 below).

**4 *Is the Government’s description of the current arrangements for managing and disposing of radioactive wastes reasonable and accurate?***

In the main, the Government’s description of *current* arrangements is reasonable and accurate. However, an area where it might be argued that there are grounds for some criticism is in the Government’s statements about LLW management. These appear to assume that the implementation of LLW strategy – with its emphasis on the waste management hierarchy and opening up new disposal routes – will be unproblematic and straightforward.

The documentation correctly states that there are “established and proven management routes for the treatment and disposal of LLW” (AoS Main, para 6.6.5), and that the impact of LLW strategy is likely to be “to reduce the quantities of LLW disposed to the LLWR, and the increased availability of alternative waste treatment and disposal routes (AoS Main, para 6.6.8). However, some elements of LLW strategy – such as disposal to landfill and incineration - are likely to attract local opposition, particularly where attempts are made to site facilities away from existing licensed nuclear sites. Furthermore, it is possible that some proposed facilities will not secure the necessary planning permissions. As such, there is a question mark over the extent to which implementation of LLW strategy will increase the availability of alternative waste treatment and disposal routes.

It is also unclear to what extent current discussions within NDA about ‘credible options’ for treating and storing ILW may be applicable to new build ILW. The WasteDoc currently assumes that operational ILW from new stations will be stored on site, pending disposal in a

GDF, but that decommissioning ILW might not require on-site storage if it could be conditioned and packaged for disposal at it arises (para 155).

**5 *Are there issues associated with the proposed arrangements for managing the radioactive wastes from new nuclear power stations that NuLeAF should comment on?***

It is appropriate for NuLeAF to consider three issues associated with proposed arrangements for managing new build wastes: spent fuel storage; LLW management; and Generic Design Assessment. Preliminary consideration is as follows:

*Spent Fuel Storage*

The draft Nuclear NPS assumes that spent fuel from new nuclear stations will not be reprocessed and that it could be stored on the sites of those stations for up to 160 years (para 3.8.17). The question of whether to reprocess the spent fuel is primarily an issue about whether the plutonium and uranium in the spent fuel should be separated for potential re-use as future reactor fuel, rather than a waste management issue. As such, it is probably not an issue that it is appropriate for NuLeAF to comment upon.

In contrast, the duration and location of spent fuel storage are waste management issues that NuLeAF may wish to consider. The duration of interim storage of spent fuel is related to reactor lifetime and the period required for cooling prior to geological disposal. The figure of up to 160 years is based on a reactor lifetime of 60 years and a cooling period of up to 100 years for high “burn-up” spent fuel<sup>2</sup>. The WasteDoc states that the 100 year cooling period is based on conservative assumptions and points to a number of factors that could shorten the period of cooling (para 54). These include reduced burn-up, the design of the disposal package, the final disposal concept and design, the geological setting for disposal and having fewer fuel bundles in a disposal package. Less conservative assumptions could reduce the cooling time to 50 years (para 57).

The WasteDoc also acknowledges that it may not necessarily be the case that the whole interim storage period will be at each reactor site, and points out that the Government does not wish to preclude alternative arrangements (para 58). The WasteDoc points to one alternative which is for an operator with more than one new nuclear station to construct a central store for the spent fuel from all its reactors. Although not specifically referred to in the WasteDoc, other options may be a national spent fuel store, either at the GDF site or at another location. Given the spatial planning issues raised, it would seem advisable for potentially affected local authorities to be involved in discussion about the pros and cons of these options.

The AoS Main highlights a specific issue that would be relevant to such a discussion – the effect of flood risk (para 3.10.12). It states that for some sites there may be a need to design and maintain flood protection measures for the life of an interim store for spent fuel. Given the potential for severe weather events during the period of spent fuel storage as a result of climate change, it would seem advisable for various scenarios to be examined as part of the assessment of spent fuel management options.

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<sup>2</sup> New reactors are designed to extract more energy from fuel, which is left in reactors for longer. This produces higher ‘burn-up’ spent fuel than is the case in existing reactors. Higher burn-up spent fuel contains a greater concentration of longer-lived radionuclides, which increases heat output for longer.

## *LLW Management*

Further to the discussion under Q4 above, the WasteDoc states that the (relatively small amounts of) LLW from new nuclear stations “will be handled in a manner similar to current practices ...” (para 196), and concludes that the “LLWR or an alternative disposal route will be available for new build operational LLW” (para 217). As discussed under Q4 above, however, there is a question mark over the extent to which implementation of LLW strategy will increase the availability of alternative waste treatment and disposal routes for LLW, whether from legacy or new build sites.

It should also be noted that AoS Main includes the recommendation that: “The effect of the relatively small additional volume of LLW from new nuclear power stations ... should be taken into account in the planning for LLW disposal capacity that the NDA undertakes through their National LLW Strategy programme” (para 6.6.17). Given the reliance that NDA is placing on the supply chain coming forward with additional disposal capacity, rather than on ensuring delivery of centrally planned capacity, it might be argued that this recommendation is most relevant to NDA contingency planning for LLW management (see also Q6 below).

## *Generic Design Assessment*

The WasteDoc points out that the quantities and types of waste that are likely to arise, their suitability for storage, transport and their disposability, are being assessed in more detail by the regulators through the Generic Design Assessment (GDA) process for new reactors (para 29). It may be appropriate for NuLeAF to monitor these aspects of the GDA process more closely and to comment where appropriate.

The first two of these issue – spent fuel storage and LLW management - are highlighted in the proposed response to Q26 in the NPS ConDoc (see Annex B).

### ***6 What is it legitimate for NuLeAF to say in response to the NPS ConDoc question 19: “Do you agree with the Government’s preliminary conclusion that effective arrangements will exist to manage and dispose of the waste that will be produced by new nuclear power stations in the UK?”***

The draft Nuclear NPS refers to the Government’s policy that “before development consents for new nuclear power stations are granted, the Government will need to be satisfied that effective arrangements exist or will exist to manage and dispose of the waste they will produce” (para 3.8.1).

In reaching its overall conclusion, Government focused on higher activity wastes and concluded that:

- geological disposal is technically achievable for those wastes
- a suitable site can be found for geological disposal, and
- safe, secure and environmentally acceptable interim storage will be available prior to geological disposal.

On finding a suitable site for geological disposal, it is notable that the draft Nuclear NPS states that the “Government is committed to making the voluntarist and partnership approach to site selection work through the MRWS process. However, the Government recognises it

has a responsibility to deal with long-term higher activity waste management and is committed to geological disposal as the technical solution, such that it will seek to develop alternative ways to implement that solution if the current framework, as set out in the MRWS White Paper, ultimately proves to be unsuccessful in the UK” (para 3.8.15).

In contrast, the draft Nuclear NPS does not refer to a fall-back position with regard to LLW management. As reported under Q1 above, it simply asserts that arrangements for effective management and disposal of LLW already exist, “as demonstrated by the experience of dealing with such wastes from existing nuclear power stations” (para 3.8.4). To find discussion of contingencies in this case, reference has to be made to the NDA’s proposed national LLW strategy. This discusses two main contingencies: the development of facilities by the NDA and the development of a successor national facility to the LLWR (section 7.3).

Overall, the draft Nuclear NPS concludes that “the Government is satisfied that effective arrangements will exist to manage and dispose of the waste that will be produced from new nuclear power stations. As a result the IPC need not consider this question.” (para 3.8.20)

In deciding how to respond to the consultation question about agreement or otherwise with the Government’s conclusion, NuLeAF will need to bear in mind that Government has made being able to draw such a conclusion a condition for development consents to be granted. Not surprisingly then, the robustness (or otherwise) of the conclusion is seen as a key ‘battleground’ for the advocates and opponents of new nuclear build. As such, NuLeAF will need to be measured in any response, so that it is not perceived to be entering into the debate from either a pro or anti-nuclear perspective.

So what comments might NuLeAF make? The Strategy Review Group recommends that it would be appropriate to make the following points:

- The central issue is not whether technical solutions to radioactive waste management are known in principle or, in some cases, practice (as they are), but whether current strategies for implementing them will succeed and, if not, whether fall-backs or contingencies can be put in place. Whether current strategies are likely to succeed is essentially a matter of judgement. Certainly the Government’s current approach to siting a GDF does offer enhanced prospects for success (compared to previous attempts), but the outcome cannot be known for certain. Whether fall-backs or contingencies (as in the case of alternatives to the current GDF siting process) are likely to succeed could be argued to come down to a question of whether Government has the political will and/or financial resources.
- Either way, and regardless of the case for or against new nuclear power stations, it is important that the prospects for effective radioactive waste management arrangements should be enhanced by: (a) maintaining adequate levels of Government funding (particularly for the GDF programme); (b) ensuring openness and transparency in radioactive waste management strategy development and implementation; and (c) pursuing strategies for managing radioactive wastes that pay full and proper regard to the views of host communities and their local authorities.
- More specifically on the latter point, this is likely to mean ensuring that: host communities and their decision making bodies can play an appropriate and significant role in decision making about the inventory of wastes for disposal in a GDF; public acceptability is placed at the heart of decision-making in the implementation of strategy for managing Low Level

Wastes (LLW); and potentially affected local authorities are fully involved in assessment and decision-making about options for the interim storage of spent fuel from new reactors.

**7 *What advice should NuLeAF give to member local authorities in areas with proposed sites about the radioactive waste management issues that should be addressed in Local Impact Reports prepared for the IPC?***

As quoted above, the Government's overall conclusion about whether effective arrangements for radioactive waste management will exist contains the stark statement that the IPC need not consider *this question* (emphasis added). This does not mean, however, that the IPC will not have to consider radioactive waste management issues.

Note in particular that DCLG advice to Chief Planning Officers is that the IPC will invite the relevant local authority to submit a local impact report by a specified deadline (Letter, 9/11/09, para 9). It adds that the Planning Act is not prescriptive about what should or should not be included in local impact reports – it is for the local authority to determine what they regard as relevant having considered the likely impact of the proposed development on the authority's area.

In determining what is relevant, local authorities should bear in mind the following:

- A statement that the significance of radioactive waste effects will need to be determined through studies at the level of Environmental Impact Assessment and Habitat Regulation Assessments (draft Nuclear NPS, para 1.5.6)
- Although Government anticipates that radioactive waste effects at nuclear power station sites will only be of minor strategic significance, the local effects should be assessed at the project level (AoS Main, paras S.11.27 and 6.4.14)
- That detailed site specific plans for spent fuel management will be presented by potential operators for assessment by regulators and planning authorities (AoS Main, para 6.4.11)
- That it is at the local site level that a full understanding of the impacts of spent fuel management can be identified, minimised and mitigated (AoS Main, para 6.4.18)
- That when reactor site-specific consideration is given to waste a 'Radioactive Waste Management Case' will be required (Justification ConDoc, para 4.67).

It will clearly be important for the relevant local authorities to pay close regard to radioactive waste management issues when preparing Local Impact Reports for the IPC.

These issues might include:

- the pros and cons of different options for managing spent fuel (see the responses to Q5 and 6 above);
- the availability of on and off-site treatment and storage facilities for ILW, including on any neighbouring nuclear sites (see response to Qs 3 and 4 above);
- the availability of on and off-site treatment and disposal facilities for LLW, including on any neighbouring nuclear sites (see the response to Qs 3 and 4 above); and
- the case for the provision of community funds in association with the development of long-term storage facilities for spent fuel, or for the on-site disposal of LLW or short-lived ILW.

## ***8 What issues arise in the current consultations that should be drawn to the attention of the West Cumbria MRWS Partnership?***

It is proposed that a number of issues be drawn to the attention of the West Cumbria MRWS Partnership, including: references to the MRWS process; the impact of the disposal of new build spent fuel; and options for the storage and transport of spent fuel. Each issue is considered in turn:

### *The MRWS Process*

Points include:

- Government's fall-back position should the MRWS process fail (see response to Q6 above)
- Acknowledgement that it may be necessary to find sites for two GDFs if legacy and new build higher activity wastes cannot be accommodated in a single repository (Justification ConDoc, para 4.80)

### *Impact of additional spent fuel disposal*

Points include:

- The most important consideration for off-site waste management is the amount of spent fuel to be disposed of in a GDF. The draft Nuclear NPS considers a scenario where 10 GW of new nuclear capacity is built (p8) (but note that developers are considering 16 GW of capacity).
- It is estimated that disposing of the spent fuel from a 10 GW programme operated for 60 years would increase the underground area of a GDF by around 50-55% (and the increase would be proportionately greater for a larger new build programme) (AoS Main, para S.11.28).
- The potential effects of the additional inventories of spent fuel on the collective community well-being of potential GDF host communities will be addressed through the MRWS programme (AoS Main, para 6.4.22).
- The AoS recommends that the draft Nuclear NPS "suggest to the NDA that the effects of the additional volume of spent fuel and ILW from new nuclear power stations should be taken into account in their design and evaluation of a GDF, including transportation." (AoS Main 7.2.68)

### *Options for the storage and transport of spent fuel*

Points include:

- The Government's base case assumption is that spent fuel will be stored at new nuclear power station sites pending disposal in a GDF. However, an alternative could be early transport for storage at the site of a GDF prior to disposal (see response to Q5 above).
- There are two options for spent fuel transport (WasteDoc, para 80). The first is to transport spent fuel packaged in disposal containers (with the packaging taking place at the nuclear power station site). The second is to use transport flasks and package the spent fuel for disposal at or near the GDF site.

## ***9 Has the Justification ConDoc taken sufficient account of NuLeAF's earlier comments on justification?***

In December 2008 the Government started a consultation on the application from the Nuclear Industry Association (NIA) for a Regulatory Justification decision in relation to new reactor designs. NuLeAF's comments on the Application focused on three issues associated with radioactive waste management and decommissioning:

- The lack of consideration in the application of the implications of the potential use of Mixed Oxide (MOX) fuel in new nuclear power stations
- The need to consider the detriments associated with the potential need for a second GDF for new build spent fuel
- The need to consider the capacity and status issues at the LLW repository and the problematic nature of siting new LLW disposal facilities, or increasing the use of off-site facilities.

Chapter 4 of the proposed decision documents sets out what Government considers to be the evidence on the potential detriment arising from waste and decommissioning aspects. It also sets out the Secretary of State's current views based on that evidence. This is that there is a potential health detriment from the management and disposal of radioactive waste arising from any new nuclear power station built in the UK, but that "the risk of health detriment from such radioactive waste is very small and will remain very small up to and beyond disposal" (Vol 2, para 4.157). The chapter then poses the questions: do you agree or disagree with these views, and are there any matters relevant to the potential detriment that have not been considered?

A review of the proposed decision documents indicates that Government has taken account of some but not all of the issues raised by NuLeAF during the earlier consultation. In particular, the proposed decision documents:

- Do not consider the implications of the potential use of MOX fuel. For example, the Government assessment of the disposability of spent fuel from new reactors focuses only on oxide fuel (Vol 2, para 4.38).
- Acknowledge the potential need for a second GDF, but do not explicitly consider any potential additional detriments that this might cause (Vol 2, para 4.80).
- Contain a more up-to-date account of LLW management (compared to the original NIA application), but does not acknowledge the difficulties likely to be encountered in implementation of LLW strategy (Vol 2, paras 4.111-4.119, and see response to Q4 above).

The Strategy Review Group recommends that NuLeAF respond to the justification consultation suggesting that these points be addressed by Government to ensure full consideration of relevant radioactive waste management issues.

## **4 Proposed Responses to Consultation and other Associated Actions**

In the light of the review above, it is recommended that the Steering Group agrees:

- 1) To submit the response to consultation on the draft Nuclear NPS (as attached to this report at Annex B).

- 2) To submit the response to consultation on the proposed justification decision (as attached to this report at Annex C).
- 3) To write to member local authorities in areas with proposed sites to draw attention to the radioactive waste management issues that could be addressed in Local Impact Reports and to offer a meeting to discuss these issues.
- 4) To write to the West Cumbria MRWS Partnership to draw attention to the issues most relevant to the siting of a Geological Disposal Facility.
- 5) To ask the secretariat to monitor those aspects of the Generic Design Assessment process that deal with the assessment of the quantities and types of waste that are likely to arise, their suitability for storage, transport and their disposability.

The Steering Group should also note that following discussion at the Strategy Review Group, and on the authority of the Chair and Vice Chair, a short submission has been made to the Energy and Climate Change Committee that is scrutinising the Government's proposals for energy NPSs. This submission is based on the proposed responses to Government consultation Qs 17 and 19 as set out in Annex B.

## **ANNEX A: MAIN POINTS FROM SRG DISCUSSION ON 23/9/09**

- NDA and Government are considering the implications for nuclear skills. Discussion is taking place about the scope for timetabling legacy management and new build activities in a way that avoids significant skill shortages. NDA is considering the scope for ‘labour leasing’, where workforce could be made available for new build during periods of low activity in legacy management.
- There is concern amongst local authorities about whether staffing levels in nuclear legacy management can be maintained, if people working on NDA sites seek employment in new build projects.
- The strategy for managing LLW being developed by NDA will apply across the UK’s nuclear sectors, including new build. Compared to existing stations, the amount of LLW that would arise from operation of new nuclear stations is relatively small.
- Site ‘end state’ discussion is likely to need re-opening at sites where new build takes place. Where previously lacking, this discussion should pay more regard to local development plans.
- There is a view amongst local authorities with multiple neighbouring nuclear sites that a more coordinated approach should be taken to waste management and clean-up across those sites (ie across A, B and potential C station sites). Further thought needs to be given to the potential roles of NDA and local planning authorities in how to achieve this. There are likely to be a number of institutional barriers to address or overcome (eg different ownership, nuclear site licensing and planning permissions).
- Such an approach could take a number of forms. For example, waste management facilities at or adjacent to NDA sites could be offered on a commercial basis to operators of new build stations; or waste management facilities could be developed by new build operators that provide a commercial service to the NDA site. The business case for a facility at or adjacent to an NDA site would probably be stronger if the facility were also to be used for neighbouring B and possible C sites.
- Some local authorities would be concerned if the boundaries between legacy management and new build became too blurred.
- There is a need for more discussion and debate about where the boundaries should be, and on the pros and cons of the different ways in which the synergies with new nuclear build could be exploited to the benefit of nuclear legacy management.

## **ANNEX B: DRAFT RESPONSE TO CONSULTATION ON THE DRAFT NUCLEAR NATIONAL POLICY STATEMENT**

To: [energynpsconsultation@opm.co.uk](mailto:energynpsconsultation@opm.co.uk)

Dear Robin Clarke,

### **Comments on the Draft Nuclear NPS**

I write on behalf of NuLeAF, which is a Special Interest Group of the Local Government Association that seeks to represent the views of its member local authorities on nuclear legacy management issues and developments that may impact upon that management. Further information on NuLeAF may be found at [www.nuleaf.org.uk](http://www.nuleaf.org.uk).

As an organisation, NuLeAF is neither pro nor anti nuclear. However, it does have considerable collective understanding and experience of radioactive waste management developments. This has been drawn on in preparation of the comments below. These comments were prepared following discussion at NuLeAF's Strategy Review Group and have been approved by its Steering Group, which consists of councillors and officers from NuLeAF's leading member local authorities.

Given that NuLeAF's remit is limited to issues associated with radioactive waste management and decommissioning, we would like to confine our comments to consultation questions 17, 19 and 26. Our comments are as follows:

#### **Q17 Does the draft Nuclear NPS provide the IPC with the information it needs to reach a decision on whether or not to grant development consent?**

We are concerned about the statement in the draft Nuclear NPS that the IPC need not consider whether effective arrangements will exist to manage and dispose of the waste that will be produced from new nuclear power stations (para 3.8.20). This statement is capable of being misinterpreted to mean that the IPC will not have to consider any radioactive waste management issues. We believe that this interpretation is not what the Government intended and that it should clarify its position.

We note in this regard that DCLG advice to Chief Planning Officers is that the IPC will invite the relevant local authority to submit a Local Impact Report by a specified deadline (Letter, 9/11/09, para 9). It adds that the Planning Act is not prescriptive about what should or should not be included in Local Impact Reports – it is for the local authority to determine what they regard as relevant having considered the likely impact of the proposed development on the authority's area.

In determining what is relevant, local authorities are likely to bear in mind the following:

- A statement that the significance of radioactive waste effects will need to be determined through studies at the level of Environmental Impact Assessment and Habitat Regulation Assessments (draft Nuclear NPS, para 1.5.6)
- That the local radioactive waste management effects should be assessed at the project level (Appraisal of Sustainability (AoS), paras S.11.27 and 6.4.14)
- That detailed site specific plans for spent fuel management will be presented by potential operators for assessment by regulators and planning authorities (AoS para 6.4.11)

- That it is at the local site level that a full understanding of the impacts of spent fuel management can be identified, minimised and mitigated (AoS para 6.4.18)
- That when reactor site-specific consideration is given to waste a 'Radioactive Waste Management Case' will be required (Justification Consultation Document, para 4.67).

We believe, therefore, that it will be important for the relevant local authorities to pay close regard to radioactive waste management issues when preparing Local Impact Reports for the IPC. These issues might include:

- the pros and cons of different options for managing spent fuel from new nuclear power stations (see further discussion below under Q26);
- the availability of on and off-site treatment and storage facilities for Intermediate Level Waste (ILW), including on any neighbouring nuclear sites;
- the availability of on and off-site treatment and disposal facilities for Low Level Waste (LLW), including on any neighbouring nuclear sites (see further discussion below under Q26); and
- the case for the provision of community funds in association with the development of long-term storage facilities for spent fuel, or for the on-site disposal of LLW or short-lived ILW.

We would anticipate that the IPC will need to consider the radioactive waste management issues raised in Local Impact Reports. This legitimate expectation should be made clear in the Nuclear NPS.

**Q19 Do you agree with the Government's preliminary conclusion that effective arrangements will exist to manage and dispose of the waste that will be produced by new nuclear power stations in the UK?**

We note that in reaching its conclusion, Government focused on higher activity wastes and concluded that:

- geological disposal is technically achievable for those wastes
- a suitable site can be found for geological disposal, and
- safe, secure and environmentally acceptable interim storage will be available prior to geological disposal.

On finding a suitable site for geological disposal, it is notable that the draft Nuclear NPS states that the "Government is committed to making the voluntarist and partnership approach to site selection work through the MRWS process. However, the Government recognises it has a responsibility to deal with long-term higher activity waste management and is committed to geological disposal as the technical solution, such that it will seek to develop alternative ways to implement that solution if the current framework, as set out in the MRWS White Paper, ultimately proves to be unsuccessful in the UK" (para 3.8.15).

In contrast, the draft Nuclear NPS does not refer to a fall-back position with regard to LLW management, but asserts that arrangements for effective management and disposal of LLW already exist, "as demonstrated by the experience of dealing with such wastes from existing nuclear power stations" (para 3.8.4). To find discussion of contingencies in this case, reference has to be made to the NDA's proposed national LLW strategy. This discusses two main contingencies: the development of facilities by the NDA and the development of a successor national facility to the Low Level Waste Repository (LLWR) (section 7.3).

In responding to Q19, NuLeAF is aware that Government has made being able to draw its preliminary conclusion a condition for development consents to be granted. Not surprisingly then, the robustness (or otherwise) of the conclusion is seen as a key ‘battleground’ for the advocates and opponents of new nuclear build.

NuLeAF wishes to highlight that it is not entering this debate from either a pro or anti-nuclear perspective. It has the following comments:

- The central issue is not whether technical solutions to radioactive waste management are known in principle or, in some cases, practice (as they are), but whether current strategies for implementing them will succeed and, if not, whether fall-backs or contingencies can be put in place. Whether current strategies are likely to succeed is essentially a matter of judgement. Certainly the Government’s current approach to siting a Geological Disposal Facility (GDF) does offer enhanced prospects for success (compared to previous attempts), but the outcome cannot be known for certain. Whether fall-backs or contingencies (as in the case of alternatives to the current GDF siting process) are likely to succeed could be argued to come down to a question of whether Government has the political will and/or financial resources.
- Either way, and regardless of the case for or against new nuclear power stations, it is important that the prospects for effective radioactive waste management arrangements should be enhanced by: (a) maintaining adequate levels of Government funding (particularly for the GDF programme); (b) ensuring openness and transparency in radioactive waste management strategy development and implementation; and (c) pursuing strategies for managing radioactive wastes that pay full and proper regard to the views of host communities and their local authorities.
- More specifically on the latter point, this is likely to mean ensuring that: host communities and their decision making bodies can play an appropriate and significant role in decision making about the inventory of wastes for disposal in a GDF; public acceptability is placed at the heart of decision-making in the implementation of strategy for managing Low Level Wastes (LLW); and potentially affected local authorities are fully involved in assessment and decision-making about options for the interim storage of spent fuel from new reactors.

**Q26 Do you have any comments on any aspect of the draft Nuclear NPS or its associated documents not covered by the previous questions?**

We have three sets of further comments on (a) spent fuel storage, (b) LLW management, and (c) proposals that may prejudice effective management of the nuclear legacy.

**(a) Spent Fuel Storage**

The draft Nuclear NPS assumes that spent fuel from new nuclear stations will not be reprocessed and that it could be stored on the sites of those stations for up to 160 years (para 3.8.17). The associated document on the arrangements for management and disposal of wastes (the ‘Waste Document’) acknowledges that it may not necessarily be the case that the whole interim storage period will be at each reactor site, and points out that the Government does not wish to preclude alternative arrangements (para 58). The Waste Document points to one alternative which is for an operator with more than one new nuclear station to construct a central store for the spent fuel from all its reactors. Although not specifically referred to in

the Waste Document, other options may be a national spent fuel store, either at the GDF site or at another location. Given the spatial planning issues raised, we think it would be appropriate for potentially affected local authorities to be involved in early discussion about the pros and cons of these options and propose that a process for these discussions be agreed at the earliest opportunity.

We also note that the main AoS document highlights a specific issue that would be relevant to such a discussion – the effect of flood risk (para 3.10.12). It states that for some sites there may be a need to design and maintain flood protection measures for the life of an interim store for spent fuel. Given the potential for severe weather events during the period of spent fuel storage as a result of climate change, it would seem advisable for various scenarios to be examined as part of the assessment of spent fuel management options.

#### (b) LLW Management

The Waste Document states that the (relatively small amounts of) LLW from new nuclear stations “will be handled in a manner similar to current practices ...” (para 196), and concludes that the “LLWR or an alternative disposal route will be available for new build operational LLW” (para 217). However, some elements of the UK’s LLW strategy – such as disposal to landfill and incineration - are likely to attract local opposition, particularly where attempts are made to site facilities away from existing licensed nuclear sites. Furthermore, it is possible that some proposed facilities will not secure the necessary planning permissions. As such, there is a question mark over the extent to which implementation of LLW strategy will increase the availability of alternative waste treatment and disposal routes, whether for legacy or new build sites. This should be taken into account in discussions about the availability of treatment and disposal facilities for LLW from specific new build sites.

#### (c) Proposals that may prejudice effective management of the nuclear legacy

It is arguable that there are three aspects of current proposals for new build that may prejudice effective management of the nuclear legacy. These are:

- The assumption that new build spent fuel will be disposed of to the GDF may not be welcomed by potential host communities and their decision making bodies. The assumption has potential to become a ‘bone of contention’ and could impact on the GDF siting process.
- Insufficient sensitivity to the views of communities local to proposed ‘green field’ sites for new nuclear build (Braystones and Kirksanton in Cumbria) may impact on public opinion in that area on possible involvement in the GDF siting process.
- There is concern amongst local authorities about whether staffing levels in nuclear legacy management can be maintained, if people working on NDA sites seek employment in new build projects.

NuLeAF suggests that Government give careful consideration to how to most appropriately address these issues in moving forward.

I hope that these comments are of value.

Yours sincerely,

## **ANNEX C: DRAFT RESPONSE TO CONSULTATION ON THE PROPOSED JUSTIFICATION DECISION**

To: [justification@decc.gsi.gov.uk](mailto:justification@decc.gsi.gov.uk)

Dear Owen Jenkins,

### **Comments on the Radioactive Waste Elements of the Proposed Justification Decision Documents**

I write on behalf of NuLeAF, which is a Special Interest Group of the Local Government Association that seeks to represent the views of its member local authorities on nuclear legacy management issues and developments that may impact upon that management. Further information on NuLeAF can be found at [www.nuleaf.org.uk](http://www.nuleaf.org.uk).

As an organisation, NuLeAF is neither pro nor anti nuclear. However, it does have considerable collective understanding and experience of radioactive waste management developments. This has been drawn on in preparation of the comments below. These comments were prepared following discussion at NuLeAF's Strategy Review Group and have been approved by its Steering Group, which consists of councillors and officers from NuLeAF's leading member local authorities.

In December 2008 the Government started a consultation on the Application from the Nuclear Industry Association (NIA) for a Regulatory Justification decision in relation to new reactor designs. NuLeAF's comments on the Application focused on three issues associated with radioactive waste management and decommissioning:

- The lack of consideration in the application of the implications of the potential use of Mixed Oxide (MOX) fuel in new nuclear power stations
- The need to consider the detriments associated with the potential need for a second Geological Disposal Facility (GDF) for new build spent fuel
- The need to consider the capacity and status issues at the LLW repository and the problematic nature of siting new LLW disposal facilities, or increasing the use of off-site facilities.

Chapter 4 of the proposed decision documents sets out what Government considers to be the evidence on the potential detriment arising from waste and decommissioning aspects. It also sets out the Secretary of State's current views based on that evidence. This is that there is a potential health detriment from the management and disposal of radioactive waste arising from any new nuclear power station built in the UK, but that "the risk of health detriment from such radioactive waste is very small and will remain very small up to and beyond disposal" (Vol 2, para 4.157). The chapter then poses the questions: do you agree or disagree with these views, and are there any matters relevant to the potential detriment that have not been considered?

A review of the proposed decision documents indicates that Government has taken account of some but not all of the issues raised by NuLeAF during the earlier consultation. In particular, the proposed decision documents:

- Do not consider the implications of the potential use of MOX fuel. For example, the Government assessment of the disposability of spent fuel from new reactors focuses only on oxide fuel (Vol 2, para 4.38).
- Acknowledge the potential need for a second GDF, but do not explicitly consider any potential additional detriments that this might cause (Vol 2, para 4.80).
- Contain a more up-to-date account of LLW management (compared to the original NIA application), but does not acknowledge the difficulties likely to be encountered in implementation of LLW strategy (Vol 2, paras 4.111-4.119).

NuLeAF suggests that these points be addressed by Government to ensure full consideration of the potential detriments that may be associated with radioactive waste management issues.

I hope that these comments are of value.

Yours sincerely,