Nuclear Decommissioning Authority

Version 1

Optimising the number and location of: Interim Intermediate Level Waste (ILW) storage facilities on Magnox Limited and EDF Energy sites

and

FED Treatment (Dissolution) Facilities in Magnox Limited

NDA Response to Stakeholder Comments on Credible Options

November 2013

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1 INTRODUCTION

The Nuclear Decommissioning Authority (NDA) has made a commitment to consider the possibilities to reduce the overall costs, environmental impacts and timescales of decommissioning by consolidating Intermediate Level Waste (ILW) management at fewer locations.[1]
In May 2013 we published two Credible Options papers which offered significant opportunities of this nature:

1. Optimising the number and location of interim Intermediate Level Waste (ILW) storage facilities on Magnox Limited and EDF Energy sites in England and Wales – Credible Options
2. Optimising the number and location of FED Treatment (Dissolution) Facilities in Magnox Limited – Credible Options

Comments were requested on these papers and feedback was also received at a number of stakeholder workshops and meetings held following publication of the papers. All comments and feedback received was considered in determining the Preferred Option for each of the projects. This preferred option was published in a joint paper for comment in November 2013.

2 SUMMARY OF COMMENTS RECEIVED

In response to the request for comments on the Credible Options Papers, we received a total of 57 responses from interested stakeholders.
Responses were received from a number of different stakeholder groups including:

- Local Authorities
- Parish Councils
- Site Stakeholder Groups
- Non-Governmental Organisations (NGO's)
- Industry Representatives
- Individuals

Responses were received from all around England but the majority were from the Somerset (Hinkley Point) and Essex (Bradwell) areas.
Most of the comments received can be grouped under the headings below. More specific comments have been looked at carefully and the final document updated where needed. Specific technical input that was received was sent to the project team for their consideration.

[1] Nuclear Decommissioning Authority NDA Strategy, effective from April 2011.

2.1 Options vs. Proposals

There was confusion from many stakeholders about the term ‘credible options’. Many misinterpreted the term and thought that the options described were actually proposals and that decisions had already been taken.

Our response:

- A credible option is one of a number of options that could realistically be taken forward to the next stage of ‘strategic assessment'.
- A credible options paper gives stakeholders the opportunity to comment on a range of options to help us identify the preferred option.
- The credible options stage is an opportunity for early engagement with interested stakeholders. Following this stage, there will still be other opportunities to comment on and influence the outcome. These include engagement following publication of the preferred option and public consultation at the planning stage.

2.2 Stakeholder Engagement

We received criticism for the length of time the credible options paper was available for comment and for not publicising the paper widely enough.

Our response:

- We accept that there were a number of shortcomings with visibility and length of the period for comments on the credible options paper. We did however take swift corrective action to inform key local stakeholders and lengthen the time period for the engagement process.
- Engagement around the credible options is only the first step in the process. Other opportunities to comment on and influence the outcome will occur following publication of the preferred option and public consultation at the planning stage.
- We have taken on board the feedback regarding how the paper was publicised and we aim to increase awareness and publicise more widely at the preferred option stage.

2.3 Transport

Most concerns related to Heavy Goods Vehicles (HGV) disturbances, although some respondents also raised concerns about road safety and public dose rates. At a stakeholder workshop held in July, a majority of stakeholders said they did not favour options that involved cross-country/inter-regional waste movements.

Our response:

- A key project assumption has changed to favour rail transport over road wherever possible. In some circumstances, for example transport movements between Oldbury and Berkeley and waste consignments to Hinkley Point, it is either not practicable or not considered at this stage to be optimal for the waste to be transported by rail.
- Options involving inter-regional waste consignments have been discounted.
- Additional HGV movements resulting from the preliminary preferred options would typically be around one or two lorries per week. For Hinkley Point, barring a significant delay to the new build programme, the additional movements would only begin after peak construction activity on Hinkley Point C has ended.
- Careful scheduling of transport movements will further minimise any disruption. For example consideration will be given to the traffic associated with the construction of a new power station at Hinkley Point and the cumulative impact of transports associated with these projects.

Magnox will be required to minimise all doses and ensure that public exposure to doses is minimised – e.g. through additional shielding on HGVs carrying waste consignments.

2.4 Equity

Many respondents from Somerset expressed concern about transport congestion in and around Bridgwater, which will be exacerbated by the Hinkley Point C construction programme. Also, at the July workshop, a number of participants thought there was greater equity in distributing the impacts between sites, particularly where there was an element of ‘trade-off’ between two sites.

Our response:

- The preliminary preferred option seeks to avoid disproportionate impact on any individual site.
- Some Bradwell FED is being dissolved at the Dungeness A dissolution facility under an existing trial arrangement. Based on stakeholder feedback, we believe there is some equity in using the spare capacity at the Bradwell ILW interim storage facility to store Dungeness A’s waste.

2.5 Design of FED plant

Some stakeholders questioned the fact that any new FED plants that are built would be designed to use nitric acid as per the Bradwell FED plant design rather than carbonic acid as is the case at Dungeness.

Our response:

- The present study does contain the assumption that any future dissolution plant would be based on the Bradwell design. This is in part because there is no existing carbonic plant design that has throughput rates approaching the rates which are expected to be achieved by the Bradwell nitric plant. This high throughput rate is important as it enables prompt hazard reduction and supports the delivery of the wider Magnox Optimised Decommissioning Plan (MODP)..
- At the current time, the nitric acid plant at Bradwell is not operational. It is recognised that learning from the operation of this plant will help to determine whether the assumption of future plants being of the Bradwell design is valid. Magnox are therefore committed to reviewing this assumption once experience is gained from Bradwell. It should be noted that throughout the optimisation project to date the outcome of the optioneering has been tested to assess whether the options eliminated would be different if carbonic acid were to be used. This 'sensitivity' analysis thus far indicates that the choice of acid would not affect the credible options list put forward.

2.6 Environmental Impact of Discharges arising from FED Treatment

There were a number of concerns raised regarding environmental discharges resulting from FED treatment.

Our response:

- All of the discharges and emissions from the operation of FED treatment plants are and would be regulated under Environmental Permitting Regulations. This includes gaseous and liquid discharges of radionuclides, gaseous emissions of NOx, and discharges of nitrates to the marine environment, the latter two applying only in the case of nitric-acid based plant.
- All chemical emissions and discharges would be mitigated as necessary such that the impacts would be acceptable. However, for reasons of intrinsic ecological sensitivity both the mitigation and demonstration of acceptable

impacts may be more challenging in some cases than in others. As noted above, this has been taken into account in determining the preferred option.

- As regards radiological impacts, FED treatment would involve discharges at levels which would be very low compared to historical levels, and abatement would be required to ensure that impacts were As Low As Reasonably Achievable

2.7 Geological Disposal/Long term storage

There was confusion from some stakeholders about the term 'interim storage'. Some believed that interim stores were actually long term stores or a replacement for the Geological Disposal Facility (GDF).

Our response:

- The long term solution for ILW in England and Wales is disposal in a GDF. All ILW in interim storage will be transported to the GDF when it becomes operational.
- The Interim ILW Stores have a design life of at least 100 years and are therefore not designed to be a long term storage or disposal solution.

2.8 Community Benefit

A number of stakeholders asked whether a community benefit package would be offered to affected communities.

Our response:

- The issue of Community benefit should properly be explored through the planning process and will need to take account of the scope of the impact on a community. This will include looking at the amounts of material concerned and any unique factors of the site itself and its local environment. Such an approach would also ensure that any package that was justified would be both proportionate and equitable.

2.9 Flooding

Some respondents had concerns that we hadn't considered external hazards such as flooding during determination of the credible options.

Our response:

- Magnox is required under the site licence conditions to have and maintain safety cases for all nuclear matter on its licensed sites, and required to subject such safety cases to periodic review. The safety case system includes provision for independent review, in the most significant cases by the independent regulator, the Office for Nuclear Regulation.
- A mandatory component of significant nuclear safety cases is the assessment of external hazards, including extreme events such as flooding from coastal waters and seismic events. These safety cases include forward looking aspects that address issues such as the potential for and effects of future climate change and sea level rise. Periodic review of these safety cases allows for the latest information on sea level rise and flood risk to be taken into account. Magnox and its Regulators will therefore ensure the storage of packaged ILW, wherever that may be and whether in shared stores or not, will have a high level of safety and adequate protection against the risks of flooding etc.

2.10 Safety of stores

There were some concerns raised about the safety and the security of the ILW stores particularly once a site enters care and maintenance.

Our response:

- Magnox is required under the site licence conditions to have and maintain safety cases for all nuclear matter on its licensed sites, and required to subject such safety cases to periodic review. The safety case system includes provision for independent review, in the most significant cases by the independent regulator, the Office for Nuclear Regulation.
- Such a safety case has been developed for the existing ILW stores within Magnox. These cases (and future ones for future stores) consider the safety of the public and the worker during both the period of storage operations and also during the storage period itself.
- With respect to security Magnox is required to demonstrate that the arrangements during the care and maintenance period are adequate. Whilst security is a topic on which Magnox are unable to divulge full details, such arrangements need to be approved by the security regulator ONR CNS.