`Respondent Details
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⇔ Large business (over 250 staff)

The consultation document sets out the Government's proposed approach to the longer term management of the UK's plutonium stocks for public scrutiny and consultation. Comments on any aspect of this issue are welcome, but the key questions posed in this consultation are:

Q1 Do you agree that it is not realistic for the Government to wait until fast breeder reactor technology is commercially available before taking a decision on how to manage plutonium stocks?

Response Yes – we believe that the Government is taking the correct approach. The UK currently has the world's largest civilian separated plutonium stockpile, and the decision on how to manage it can no longer wait for some future technologies to be developed. Recycling is a proven industrial path for burning plutonium in reactors, thereby addressing proliferation concerns by providing encapsulation in a self protecting matrix (i.e. fuel assemblies) and by consuming, under irradiation in a reactor, roughly one-third of the plutonium and significantly degrading the isotopic composition of the remaining plutonium. Already 38 nuclear power stations around the world can burn MOX fuel, which proves that not only fuel fabrication but also its usage are established industrial practices Moreover it is generally accepted in the international community that fast breeder reactor technology could be a major breakthrough to address the issue of minor actinides management. Nonetheless, Generation IV reactors will be available on industrial scale only after 2040, or later depending on demand for natural uranium and progress on R&D activities. This timescale is not compatible with the urgency of addressing the threats and risks which the largest civil plutonium inventory in the world could pose. In addition, plutonium aging allows americium to build up, which would require special treatment to separate it from plutonium for any further use in the future and would affect its efficiency in a nuclear reactor. Delays in the UK policy decision would only accentuate this problem for plutonium re-use, requiring a pre-treatment for a larger amount of material, and leading to increased costs.

Q2 Do you agree that the Government has got to the point where a strategic sift of the options can be taken?
Response Yes – we believe that there is enough scientific proof and industrial evidence to assert that recycling into MOX fuel is a proven industrial path (NDA "Credible options", Royal Society "Strategy options" and the most recent Oxford University's Smith School of Enterprise and the Environment report by Sir David King). All plutonium disposal options other than recycling into MOX are not technologically mature enough to move quickly and with certainty to the industrial phase required by the amount of the UK stockpile - for example, the conditioning process, which would need a very significant effort of R&D to be confirmed first and then industrialised; likewise for the development of specifications for the acceptance of packages in a future UK deep geological repository. This should be compared with the economic advantages of the recycling solution. Significantly, the US underwent the same selection process by scrutinizing all possible alternatives. As a conclusion of these thorough studies the US has chosen the MOX fuel path to recycle and re-use its excess weapons-grade plutonium in the framework of the US-Russia START disarmament programme. They launched the construction of a new MOX fuel fabrication facility (MFFF) on the site of Savannah River which should be completed by 2016 by AREVA Shaw Services.

Q3 Are the conditions that a preferred option must in due course meet, the right ones?
Response Yes - we believe that conditions listed by the Government are the right ones and that they cover the full spectrum of requirements. The track record of other international examples

demonstrates that the MOX option is a proven and mature industrial solution, with excellent results in respect of safety, health and environmental requirements.

- Among the credible options described by the NDA, the MOX option is the only one to be immediately achievable and deliverable
- The track record of the AREVA Melox facility - more than 1,500 tons of MOX produced since its commissioning in 1995 - provides evidence that plutonium recycling as MOX fuel can be performed safely, efficiently and with no adverse impact on health and environment
- The MOX option benefits from the huge quantity of energy contained in plutonium material. Moreover, there is room for optimisation of the business model, to bring the highest value for money and benefit to the UK.
- Last but not least, construction and operation of a new plant would have a strong stimulus on workforce demand, providing long-term "quality" and skilled employment both locally and nationally - again the example of the AREVA Melox facility, which generates very significant (tens of millions of pounds) socio-economic benefits.

Q4 Is the Government doing the right thing by taking a preliminary policy view and setting out a strategic direction in this area now?

Response Yes - we believe that the UK Government is doing the right thing by taking a preliminary policy view and setting out a strategic direction in this area now. The UK plutonium stocks (the largest in the world) have long represented a potentially serious security and environmental threat. The urgency of addressing this issue is now a clear political responsibility, and UK decision makers are taking the right steps with this consultation to inform their decision. Besides, the existence of a proven technology solution will allow the UK government to carry out a robust evaluation of project costs and risks with much less uncertainty compared with other unproven solutions. However, the longer the plutonium is kept in storage without a solution, the greater the deterioration of plutonium, which would thereby significantly increase the cost of future, safe recycling. In conclusion we believe that recycling the plutonium into MOX fuel provides the best cost-benefit effectiveness, and significantly reduces the liabilities for UK taxpayers; an early decision on these lines would serve to limit future costs.

Q5 Is there any other evidence government should consider in coming to a preliminary view?

Response We believe that Government has prepared an exhaustive list of evidence to consider during its decision-making process. We should like to add that good communication and transparency with all stakeholders is key in determining the success of the chosen option. It is also fundamental to allow all players to move forward in a well-defined procedural framework; the success of the project will depend on the clarity of requirements and procedures to be implemented. Time is of the essence also because of aging conditions of plutonium stockpile.

Q6 Has the Government selected the right preliminary view?

Response Yes – we believe that the most effective and sustainable option to deal with this plutonium management issue is to recycle the existing stockpile into MOX fuel to be burned in reactors, as explained above. Clearly it requires new reactors to be built in the UK; this process is on track and both designs applying for GDA are capable of using MOX fuel as mentioned in the consultation document.

Q7 Are there any other high level options that the Government should consider for long-term management of plutonium?

Response No – In order to deal with this difficult issue, the credible options are limited and have been well explored by the NDA. The continued long term storage is not an option which would satisfy non-proliferation requirements The direct disposal option is not technologically mature. The MOX fuel option is immediately available and would provide economic and jobs benefits to UK, together with a significant contribution to low-carbon energy