Plutonium Consultation
3rd Floor, Area C/D
Nuclear Policy Unit
Department of Energy and Climate Change
3 Whitehall Place
London
SW1A 2AW

**Neil Blundell**
**Principal Nuclear Inspector**

Tel: +
Fax: +
Email:

Our Ref: Unique No: 5.3.3.336. 2011/0254401

Your Ref: Unique No:

5 May 2011

Dear Sir,

**Subject: MANAGEMENT OF THE UK'S PLUTONIUM STOCKS - A consultation on the long-term management of UK owned separated civil plutonium**

This letter comments on aspects of nuclear safety only.

In respect of the above consultation the Office for Nuclear Regulation (ONR) welcomes the Government's decision to open its proposed approach to the longer term management of the UK's plutonium stocks for public scrutiny and consultation so that the public can at an early stage understand and influence the development of a safe sustainable solution.

You are aware that the ONR has applied significant resources in the discussions with yourselves and the Nuclear Decommissioning Authority (NDA) during the lead up to this consultation.

We will continue to do so afterwards as you move forward to delivering a solution for the long term management of a significant hazard within the nuclear industry.

Although we will be provided opportunity for input to the proposed implementation of the outcome of the consultation process via future discussions and regulatory requirements we have a number of key comments that may prove of value to the Government in future Stakeholder interactions as well as a series of answers to your consultation questions.

***Key Comments***

We welcome that the government has recognised the need to invest in disposal capability alongside its other options as it is clear some of the existing material declared within the plutonium stocks would be more reasonably practicably dealt with by preparing it for a suitable disposal route.

Regardless of the outcome of this consultation any new build, including future stores and spent fuel management facilities, will be required to have a safety case that meets modern standards including taking all reasonably practicable measures to protect the public and minimise dose uptake to workers during all phases of plant operation including normal, abnormal and maintenance.

The criteria used in the selection of an option should strongly include reliability of operation as it is known that maintenance can be a major contributor to worker dose and the risks within a safety case.

In addition to passive safety being a fundamental requirement of ongoing storage; design and operation of stores should be cognisant of the requirement to manage the stored material such that it can be safely retrieved and delivered to any selected option throughout the period of storage.

Waste processes should produce waste forms either suitable for disposal or in a stage that will lead to that disposable form.

We consider that it is an underlying assumption that the UK has and will continue to have the right skills to continue to manage plutonium. A plutonium strategy should show that there is adequate investment in the skills resource that will continue to be needed to manage plutonium in accordance with regulatory requirements whatever option is chosen.

We would consider that any option chosen by the Government should not detract from the delivery of the remediation of those parts of the Sellafield site that are considered urgent, and that the strategic direction of the current licensee is also not diverted from this task.

**Consultation Questions**

You have indicated within your consultation paper the desire to have responses to a number of formal questions. As a safety regulator it is not appropriate to offer definitive solutions to challenges but rather the goals which we expect the dutyholder to aim to achieve thus where possible we have provided short responses.

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?

*ONR Response*

We welcome as you state in your paper the Government's decision "to demonstrate leadership and effectiveness in the UK in facing up to the issues of plutonium

management" and consider that further delays in the decision on the future of the material in the UK would be a retrograde step.

Q2 Do you agree that the Government has got to the point where a strategic sift of the options can be taken?

*ONR Response*

We consider that this is an appropriate time to make a decision on the future of the plutonium stocks to ensure that sufficient funding is secured to maintain the safety of the material at an ALARP level and to put the appropriate facility infrastructure in place in a timely manner.

You rightly recognise that continued long term storage has significant problems and, in particular, leaves a burden for future generations to manage, on a continuing basis, the security risks and proliferation sensitivities.

We consider it important that the strategic sift recognises that whilst the storage of plutonium is an option that is available and being implemented now, the current storage facilities and management philosophy have not been optimised to achieve passive storage.

Q3 Are the conditions that a preferred option must in due course meet, the right ones?

*ONR Response*

We consider that the condition "It must be shown to be capable of meeting health, safety and environmental requirements as well as meeting non-proliferation and security objectives" to be appropriate.

We would consider it essential however that the solution is not only cost-effective but that the solution consistently delivers on all of the key aims. I.e. that the option or options chosen are not prone to reliability issues which lead in turn to higher risks to the public and workers of realising hazards.

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

*ONR Response*

In addition to our response in Q2; where we welcome a timely approach.

We consider that it is important to deliver a solution for the long term management of plutonium that meets with modern standards and can account for any change in those standards with time and with the long term behaviour of separated plutonium.

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

*ONR Response*

We consider that the government should ensure that: -

- The options selected contain evidence related to waste management and decommissioning over their lifecycle in addition to the need to achieve operational safety.
- As far as is reasonably practicable where storage forms part of any option that the storage regime is optimised for passive operation

Q6 Has the Government selected the right preliminary view?

*ONR Response*

It is not appropriate for the independent safety regulator to express a view as this would be seen as pre-judging the safety case. However we see no reason why an adequate safety case should not be possible for all of the proposed options

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

*ONR Response*

There are no other high level options that we consider should have been included.

We trust you will find our comments and responses helpful in coming to your preliminary view.

Yours faithfully,

**N Blundell**
*Principal Nuclear Inspector*