Executive Summary:

This report records the purpose and outcome of a workshop on the Interim Safe Storage ("ISS") concept, sponsored by the Radioactive Waste Policy Group (RWPG), which was held at Defra's Ashdown House building in London on 28 November 2003.

RWPG is the UK Radioactive Waste Management Policy Group on which UK Government departments, the devolved administrations and the principle regulatory bodies (HSE and the environment agencies) are represented. "ISS" is a concept originally developed by British Nuclear Fuels plc in the context of the need to manage older and challenging legacy wastes at Sellafield, in particular to secure early reduction in the hazard associated with them.

The workshop was attended by 26 representatives from UK Government departments, the devolved administrations, the regulatory bodies, the nuclear industry and national advisory committees with radioactive waste interests.

The purpose of the workshop was to seek to clarify the extent of commonality of view among those attending of the current position and status of "ISS", its role in relation to solution of radioactive waste management problems, and the needs, if any, for further relevant work.

By the end of the workshop the following consensus view had been reached:

- "ISS" was a term originally coined by BNFL to support discussion of legacy waste issues at Sellafield;
- as a term and concept, it could be consigned to history;
- this was because it has now been shown that existing arrangements based on the Nirex Letter of Comfort (LoC) system could be used for the overwhelming majority of, and potentially all, legacy wastes;
- early dialogue and an understanding of all short-and-long-term drivers are needed to identify appropriate packaging options for such wastes.

It was agreed, the objectives of the workshop had been achieved in arriving at this consensus view.
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Appendices
A - List of Attendees.
B - Copy of final Workshop Agenda.
C - Copies of Workshop Presentations.
D - Critique of Workshop.
E - List of participants full expectation statements.
1. WORKSHOP PURPOSE STATEMENT AND OUTPUT REQUIRED

Prior to the Interim Safe Storage (hereafter “ISS”) workshop, the following purpose statement and output required had been agreed between Defra Radioactive Substances Division and the Workshop Facilitator:

“To clarify the current position of “ISS” and endeavour to develop a current position statement that all stakeholders could support on the ISS proposals and also to identify the possible need for further work.”

2. WORKSHOP ATTENDEES EXPECTATIONS

As a precursor to the Workshop the expectations of all attendees had been canvassed and established wherever possible. These are included as Appendix E.

From these expectation statements, which ranged in detail from high-level statements to comprehensive descriptions of “ISS” issues, a “distillation” process was completed by the Facilitator which reduced them to the five key expectations set out below.

These were presented at the front-end of the Workshop and agreed with all attendees as representing a good précis of their detailed expectations and so formed the key issues for the day.

“Distilled” Expectations for the Workshop.

- To establish an understanding of the meaning of the term “ISS” and its usefulness or otherwise as a concept.
- To understand how ISS could fit into short, interim and longer-term radwaste solutions and related arrangements (LoC Process).
- To recognise there is a national problem with legacy wastes which, on the basis of agreement of all concerned, needs consensus on how best to deal with.
- To agree the way forward requires ongoing close involvement from all interested parties.
- In light of the extent of commonality of view, to assess and agree the next steps to take this further

3. WORKSHOP PRESENTATIONS

Presentations in the form of organisational position statements were made by the following:

BNFL - David Horsley
Nirex - Bruce McKirdy
HSE/NII - Geoffrey Vaughan
EA/SEPA – David Bennett
4. DISCUSSION AND ASSESSMENT OF PRESENTATIONS.

“ISS” is a term originally coined by BNFL to refer to the early conditioning of waste – notably challenging legacy ILW held in deteriorating facilities at Sellafield – to allow its interim safe storage, either with or without Nirex LoC cover. The primary purpose of such conditioning is to secure early reduction of the hazard associated with the waste.

It was self evident, both as a result of these presentations and also the reported outcome of previous meetings and discussions, that there was almost total unanimity within the body of attendees on the meaning and concept which had become known as “ISS”. The subsequent direction of the Workshop was adjusted in view of this context.

Originally, it had been thought that the retrieval and management of some of the older Sellafield legacy wastes, which were particularly difficult to access and characterise, could not be dealt with through the LoC arrangements. That is, that they constituted a separate distinct sub-set of wastes for which some other form of treatment and management approach was necessary. However, as discussions between BNFL, the regulatory bodies and Nirex had progressed, and understanding of the relevant issues increased, it had become clear, and accepted by all sides, that the LoC approach was actually applicable to their handling.

There was a general feeling that it was possible to do better than to condition waste in a manner that was incompatible with LoC system requirements or, at the very least did not provide a clear pathway to their eventual satisfaction. Consideration of the LoC “compliance gap” was an appropriate means of contemplating such pathways. Indicative of the feasibility of this approach was that, of eight of the most problematic legacy waste streams at Sellafield, it had so far been possible to identify a way forward capable of eventually satisfying LoC requirements for six. The other two are still being considered in light of their “compliance gaps”. This led several presenters to propose that the “ISS” concept and terminology could be consigned to history”.

In light of this the Workshop Facilitator, Tony Mitchell, agreed with the workshop’s sponsors and organisers, Robert Jackson and Malcolm Wakerley, to put two up front questions to the workshop. They were:

- Do we all share the same view of consigning “ISS” to history?
- Does what we have heard this morning reflect a commonality of view on principles and processes?
In the plenary discussion which followed the posing of these questions, all attendees agreed the following bullet-points in summary answer to the two key questions:

- the concept of “ISS” has been valuable in prompting discussion, and the agreement now reached with the regulators and Nirex, concerning the way in which challenging legacy wastes need to be addressed;

- but as a term and concept “ISS” could be “consigned to history”;

- this was because it has now been shown that existing arrangements based on the Nirex LoC system could be used for the overwhelming majority of, and potentially all, legacy wastes;

- early dialogue and an understanding of all short and long-term drivers are needed to identify appropriate packaging options for such legacy wastes;

That said, workshop participants felt it was also important to make clear that these conclusions were drawn on the basis of the definition and use of “ISS in capitals” as a concept, as opposed to the separate use of the words interim, safe and storage – all of which individually (and without capitals) obviously remained applicable and important in the more general context of radioactive waste management.

5. CONCLUSION AND REVIEW OF EXPECTATIONS.

It was felt that the ability for the workshop to have concluded that existing operational and regulatory arrangements, based on the Nirex LoC system, could be used for the overwhelming majority of, if not all, legacy wastes had been particularly helpful. Not least this had served to dismiss off any suggestion that there was a need for a second, and potentially lesser, system for dealing with such wastes.

In light of this outcome, the “Distilled” Expectations for the Workshop below were reviewed in plenary and it was agreed they had all been achieved in that:

- the meaning of the term “ISS” and its usefulness or otherwise as a concept had been discussed and understood;

- it was also clear, in light of the outcome, how the “ISS” fitted into short, interim and longer-term radwaste solutions and related arrangements (including the LoC process).

- the problem of dealing with difficult legacy wastes had been acknowledged, but a clear way forward had also now been identified and agreed;

- the need for ongoing, close and early involvement of all interested parties was generally recognised and accepted;

- in light of the commonality of view on this outcome, the appropriate way forward was clear;

The slogan of “Keep applying the process!” was also endorsed by attendees in recognition of the fact that existing processes were well developed and in established
use, and could be applied to all scenarios envisaged without the need for a further layer of unnecessary complexity as application of the “ISS” concept had now come to be perceived.

The workshop was asked to note that a second complementary workshop, to discuss Nirex work on the compatibility of the LoC system with the long-term management options likely to be considered by CoRWM, would be held in early 2004.
LIST OF ATTENDEES
RWPG-Sponsored workshop on Interim Safe Storage
Friday 28 November 2003
Time: 10.00 to 16.30
Rooms 7B and 7C, 2nd Floor Ashdown

Dave Horsley
Ian Hudson
Ann McCall
Bruce McKirdy
Steve Barlow
Dave Bennett
Stuart Newstead
Mark Tearle
Dave Ferguson
Dave Glazbrook
Geoffrey Vaughan
Paul Connolly
Glyn Davies
Peter Burrows
Terry Selby
Mark Hannan
Ray Parkinson
Michelle Wise
Doug Graham
Fred Dawson
Charles Curtis
William Heathfield
Elizabeth Gray
Ian Hall
Malcolm Wakerley
Robert Jackson
Tony Mitchell (Facilitator)
Appendix B

AGENDA FOR INTERIM SAFE STORAGE (ISS) WORKSHOP

Date: Friday 28 November 2003

Location: Conference Rooms 7B & 7C, 2nd Floor
Ashdown House
123 Victoria Street
London SW1E 6DE

Workshop Purpose Statement and Output Required

To clarify the current position of ISS and endeavour to develop a common position statement that all stakeholders could support on the ISS proposals and also to identify the possible need for further work.

Agenda and indicative timings

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda Item</th>
<th>Who</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00</td>
<td>Welcome and introduction to the workshop</td>
<td>R Jackson</td>
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<td></td>
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<td>DEFRA</td>
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<tr>
<td>10.10</td>
<td>Introduction of Facilitator and Attendees</td>
<td>All</td>
</tr>
<tr>
<td>10.20</td>
<td>Verification of attendees expectations</td>
<td>Facilitator</td>
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<tr>
<td>10.30</td>
<td>Position statements on the ISS proposal</td>
<td>BNFL</td>
</tr>
<tr>
<td>11.00</td>
<td>Nirex</td>
<td></td>
</tr>
<tr>
<td>11.30</td>
<td>Regulators (HSE, EA, SEPA)</td>
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<tr>
<td>12.30</td>
<td>LMU</td>
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<td>13.15</td>
<td>Lunch</td>
<td></td>
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<tr>
<td>13.45</td>
<td>Discussion and assessment of presentations</td>
<td>All</td>
</tr>
<tr>
<td>14.45</td>
<td>Assessment of commonality of position on ISS and identification of any further work needs</td>
<td>All</td>
</tr>
<tr>
<td>15.15</td>
<td>Other issues</td>
<td>All</td>
</tr>
<tr>
<td>15.30</td>
<td>Review of workshop expectations</td>
<td>Facilitator</td>
</tr>
<tr>
<td>15.45</td>
<td>Critique of workshop</td>
<td>Facilitator</td>
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<tr>
<td>16.00</td>
<td>Close</td>
<td>DEFRA</td>
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</tbody>
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Appendix C

PRESENTATION SLIDES

Copies of presentations by Dave Horsley (BNFL), Bruce McKirdy (Nirex), Geoffrey Vaughan (HSE), David Bennett (EA, also presenting on behalf of SEPA) and Terry Selby (LMU/DTI) will be circulated separately in hard copy form as size is likely to make electronic circulation problematical.
### Appendix D

#### WORKSHOP CRITIQUE

<table>
<thead>
<tr>
<th>What could have gone better?</th>
<th>What went well?</th>
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</thead>
<tbody>
<tr>
<td>Communications with the presenters.</td>
<td>It worked! √√√</td>
</tr>
<tr>
<td>Earlier notice.</td>
<td>Good humour.</td>
</tr>
<tr>
<td>Wasn’t sure what was expected from us.</td>
<td>Satisfactory outcome. √</td>
</tr>
<tr>
<td>Not on a Friday!</td>
<td>Lack of circular arguments.</td>
</tr>
<tr>
<td>Have some stakeholders been missed? (Public representation?)</td>
<td>Good presentations and attitudes.</td>
</tr>
<tr>
<td></td>
<td>Timing – now was right.</td>
</tr>
</tbody>
</table>
Appendix E - List of participants’ full expectation statements.

RWPG Sponsored ISS Workshop Expectations – Participants Full Statements

“Agreement that it provides a flexible and pragmatic packaging solution for dealing with challenging wastes within the LoC process.”

“Agreement that:
The radioactive waste legacy at Sellafield is recognised as a national problem (resulting principally from the decision in the late 1940s to have an independent nuclear deterrent and the post Suez decision to diversify electricity generation with nuclear power, using the Magnox fuel cycle), which must be retrieved and passivated with the minimum practicable delay.
There is an obligation on Government, Regulators and BNFL to work together to agree an effective, safe, environmentally sensitive, timely and affordable way forward.
That the development of legacy waste packaging for safe, extended storage (recognising that further treatment of some waste streams for final disposal may be required) is a sound, acceptable way forward.”

“That there is unanimous agreement that the retrieval and treatment of stored raw wastes (with mobile activity) must proceed as soon as is physically possible, even if the waste form selected for interim, surface storage does not meet the (current) criteria for eventual disposal.
Reducing the probability of a significant activity release is much more important than striving to meet possible requirements for some yet to be specified distant repository.”

“For all organisations to understand each others’ roles and positions (requirements, aspirations, objections) as they relate to ISS.
For consensus to be reached on whether ISS is a useful concept.
If consensus is that it is useful, to agree what ISS is, and what it isn’t.
For a mechanism to be agreed to set down and communicate the agreed position on ISS to others who need to know.”

“Dounreay has some similar legacy wastes (RHILW – solids and sludges) to those at Sellafield covered by the ERP. The Dounreay legacy wastes were accumulated over the period 1958-1998, through tumble-tripping (Shaft and Silo).
UKAEA is in the front-end definition phase of these projects (retrieval of wastes in facility headworks, and treatment and conditioning in a separate plant).
At this point in time, UKAEA is targeting Nirex letters-of-comfort. We already have concept LoCs for Shaft and Silo wastes.
However, UKAEA recognises that BNFL is further down the road on legacy RHILW retrieval and conditioning (reference my involvement in the external review of BNFL ERP Project proposals).
UKAEA is therefore following BNFL’s experience with interest, and is fully aware of the issues and challenges associated with the standard Nirex approach. In particular, UKAEA is sensitive to the amount of waste characterisation that may be required by Nirex for waste retrieval from Shaft and Silo.
UKAEA has therefore adopted a flexible strategy that recognises that if the Nirex LoC requirements become too onerous (in terms of higher cost, feasibility and delay to programme timescales) then it will need to reconsider its position on ISS.
To this end UKAEA is happy to be “Second First”, and will continue to monitor BNFL’s position and the stance taken by Nirex, NII and EA (and others) on the ISS option for legacy RHILW.
ISS is the key technical innovation supporting the emerging BNFL legacy wastes retrieval proposals. Acceptance by all stakeholders, especially those with significant influence, is pivotal. I wish to hear at first hand what the NII and EA have to say about the proposals.
Is there an understanding of the amount of quality developments that has been done to underpin ISS?
Do the Stakeholders accept its value?
Can the stakeholders recognise the good work done, and not drive down into the detail, thereby delaying its implementation?
Further development work is needed to complete the technical case for ISS. Are the stakeholders aware of this, and what is their view about that realistic situation? Can they finalise their own positions, knowing that some key work still needs to be done?
I wish to confirm that there are good working relationships between BNFL, Nirex, NII, and EA on ISS, and that policy, as well as outstanding technical issues, is being addressed. I also have an expectation that the stakeholders, particularly the NII, accept that risks will increase temporarily as BNFL moves from the current arrangements for legacy waste storage, to the position where the waste has been conditioned.”

“As a member of an independent advisory body, I am particularly interested in the “commonality of position” specifically identified in the Agenda at 14.45. As a geochemist and mineralogist I should like to identify strengths and weaknesses in the technical capabilities (staffing arrangements for external support) of each stakeholder in understanding the chemical behaviour of different wasteforms, including insofar as this impacts on further conditioning and packaging.”

“I’d like to see the workshop clarify where this is agreement and disagreement, and re the latter, the reasons why and what can be done to move towards resolution.”

“I should like to understand precisely what ISS is, and to have a clear definition of it. I would like to know the extent to which the ISS proposal has been thought through and developed as a proposal by BNFL and its senior management. I should also, if possible, like to be aware of the extent of interest from other parts of the industry in its adoption. I would like to be clear of the extent to which the company currently sees itself committed to carrying forward the ISS proposal. I should also like to understand views of processing plant requirements. I would like to know the extent to which BNFL believes it has the support of the regulatory bodies, Nirex and the LMU in any proposal to adopt the ISS approach. Conversely, I should like to be clear of the extent to which the regulators, Nirex and LMU see themselves as being clear of the ISS proposal and having endorsed it and also what, if any problems they perceive in respect of its implementation. I should like to be clear of the overall extent of common vision of ISS and its implementation to help solve the UK’s ILW management problems. If there are difference of view on the adequacy of definition of the concept and/or its applicability to ILW management problems (in a manner that can secure fully regulatory approval), is there any further work that we could and should be doing.”

“To agree the following:
There is a need for timely retrieval and packaging to reduce the hazard from Sellafield legacy wastes that are stored in old facilities. The wastes are long-lived and so ‘disposability’ and long-term management issues need to be addressed in selection of packaging options. Nirex/BNFL have developed an approach to packaging of these wastes under the Letter of Comfort process. The approach relies on the early involvement of Nirex and regulators with BNFL (or waste producers generally) in the selection of packaging options. There is no separate ‘ISS’ process and the term ISS, which leads to confusion, should be consigned to history” ”

“To clarify current issues on ISS and identify the potential need for a strategy and action for the future, particularly in relation to Scotland.”