

Open Government Status:

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**NuSAC/RG6/08/04**

**HEALTH AND SAFETY EXECUTIVE  
NUCLEAR SAFETY ADVISORY COMMITTEE  
SUB-COMMITTEE ON RESEARCH**

**22 April 2008**

**SELLAFIELD LIMITED  
SAFETY RESEARCH ARRANGEMENTS IN 2008/09**

**Paper by Sellafield Ltd.**

**Introduction**

1. Sellafield Ltd currently operates the Sellafield, Calder Hall, and Capenhurst nuclear licenced sites. The organisation continues to change as progress is made towards the issuing of a contract for managing and operating the site. The transfer of the Windscale site to the Sellafield Ltd portfolio is currently on track along with the transfer of International Nuclear Services to NDA. Both these transfers will take effect from 1<sup>st</sup> April 2008
2. The organisation aims to work with NII through the Sellafield Nuclear Research Schedule (SNRS) that was established to enable NII to assure itself 'that adequate and balanced programmes of nuclear safety research continue to be carried out, based on a view of the issues likely to emerge both in the short and long term'. This is primarily undertaken through review and discussion between technical experts at NII and within the Sellafield Ltd organisation meeting to discuss technical issues. The results of these discussions and issues arising are used to produce Technical Strategies that are formally issued by NII to the organisation for consideration and if necessary for addressing through the establishment of further research work. Ten technical areas are considered under the arrangements at present:

- Civil Engineering
- External Hazards
- Human Factors
- Plant Materials
- Process Technology
- Probabilistic Safety Assessment
- Nuclear Physics
- Radiological Protection
- Waste and Decommissioning
- Control and Instrumentation

3. The Technical Strategies were issued in the autumn 2007. It should be noted that the Human Factors research strategy has not been formally issued. However as would be expected Human Factors related work in the organisation continues as do discussions and technical exchanges between NII and Sellafield Ltd technical experts.
4. Historically a document was produced annually, the Sellafield Nuclear Research Schedule that addressed the issues raised in the Technical Strategies. This is now no longer produced.

### **Technology Baseline and Underpinning Research and Development Document**

5. Prior to and following the formation of the NDA, it has been the responsibility of each licensed site, including Sellafield Ltd, to identify and implement R&D to underpin their specific activities. In particular, R&D which underpins Licensee safety responsibilities remains the responsibility of the Licensee. Historically a Technology Plan has been produced however a decision was taken by the NDA that all sites should produce a Technology Baseline and Underpinning Research and Development document (TB&URD) in a common format addressing all R&D. The TB&URD document would be produced annually as part of the Life Time Plan (LTP) submission and would be consistent with the contents of the LTP.
6. It was agreed with NII and NDA in 2006/07 that the issues raised as part of the SNRS would be addressed through use of the TB&URD document. This decision noted that the great majority of R&D activities impact on safety to a greater or lesser extent. The overarching view of the TB&URD would provide NII and NDA with a complete overview of research and the context in which the safety related work sat in the organisations overall technology portfolio. The TB&URD *Site Introduction 35.0.09 Technology Baselines and Underpinning Research and Development Sellafield 2008 Life Time Plan* also provides a summary of Technical Successes, Good Practice and Wiring Diagrams of Processes all of which provide a valuable insight into safety and its role at Sellafield.
7. The TB&URD has grown and has been modified since the first issue of the document last year. Comments have been taken on board from a

number of stakeholders regarding ways in which the document can be improved and information made available more easily. A copy of the TB&URD has been provided to NII as described in Table 1 below along with a Sort Sheet that has been compiled to allow the information to be assessed in a more efficient manner against a variety of key word/elements. For example the TB&URD can be sorted as either Quintessa information or as Sellafield Ltd descriptive topics, the latter have been shown as examples in table 2. It is planned to make the TB&URD publicly available as in 2007.

**Table 1- Structure of TR&RD Information 2008**

<b>TB&amp;URD Section</b>	<b>Description</b>
TB&URD Volume 1	Introduction to TB&URD and Appendix 1
TB&URD Volume 2	Appendix 2 Process Wiring Diagrams
TB&URD Volume 3	Appendix 3 OU Sections Technical Baselines and Research and Development activities
TB&URD Sort Sheet	R&D information in a form that allows sorting of the information

**Table 2- Sellafield Ltd Topics**

<ul style="list-style-type: none"> <li>• Aerial</li> <li>• Analysis</li> <li>• Cement Chemistry</li> <li>• Characterisation</li> <li>• Civil Engineering</li> <li>• Contaminated Land</li> <li>• Corrosion</li> <li>• Decontamination</li> <li>• Effluent</li> <li>• Encapsulation</li> <li>• Environment</li> <li>• Front End Design</li> <li>• Fuel fabrication</li> <li>• HAL</li> <li>• Health and Safety</li> </ul>	<ul style="list-style-type: none"> <li>• Materials</li> <li>• Modelling and Simulation</li> <li>• Monitoring and Inspection</li> <li>• OEE</li> <li>• Process Chemistry</li> <li>• Radiometric and Instrumentation</li> <li>• Remote Handling</li> <li>• Retrievals</li> <li>• Size Reduction</li> <li>• Solid Waste</li> <li>• Strategy</li> <li>• Vitrification</li> <li>• Waste Characterisation</li> <li>• Welding</li> </ul>
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## **CONCLUSION**

8. Research including safety related research continues to successfully contributed to the delivery of work across the Sellafield sites impacting and making a positive contribution to safety.
9. The new arrangement of producing the TB&URD for NDA makes this work publicly available allowing the totality of work to be seen benefiting arrangement such as the Sellafield Nuclear Research Schedule
10. The subcommittee is invited to note and comment on the paper.