



**HM NUCLEAR INSTALLATIONS INSPECTORATE
SELLAFIELD, CALDER HALL AND WINDSCALE
WEST CUMBRIA SITES STAKEHOLDER GROUP**

**REPORT FOR THE PERIOD SEPTEMBER 2010 TO FEBRUARY 2011
TO THE DECOMMISSIONING SUB-COMMITTEE MEETING:
7 March 2011**

FOREWORD

This report is issued as part of the Health and Safety Executive's commitment to make information about inspection and regulatory activities relating to the above sites available to the public. It is for distribution to members of the West Cumbria Sites Stakeholder Group (WCSSG) Decommissioning Sub-Committee and covers activities associated with the regulation of decommissioning safety at Sellafield, Calder Hall and Windscale.

These reports are distributed six monthly and will be available on the Internet. Site Inspectors of HM Nuclear Installations Inspectorate (NII) attend the Decommissioning Sub-Committee of the WCSSG meetings and will be happy to respond to any questions raised there. Any other person wishing to inquire about matters covered by this report should contact HSE, Nuclear Safety Directorate Information Centre on 0151 951 4103.

This report will be put onto the HSE Website at <http://www.hse.gov/nsd/nsdhome.htm> under "Local Liaison Committee Reports"

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1. Introduction

1.1 Proposed Changes to HSE's Nuclear Directorate

The Government made a statement on 8/2/11 regarding its intention for the HSE's Nuclear Directorate to become a separate body known as the Office for Nuclear Regulation (ONR) pending legislation. The HSE will take all necessary steps to assist the Government in the implementation of its decision in relation to the creation of the Office for Nuclear Regulation (ONR). Our immediate focus is to establish the ONR as an Agency in the wider HSE from 1 April, and we will make a further announcement about this shortly. However, there will be no impact on our regulation of nuclear licensed sites.

2. Generic Issues Relevant to Decommissioning

2.1 Lifecycle Baseline

NII is discussing Sellafield Limited's (SL) Integrated Change Programme and the Performance Plan. NII supports both these initiatives that aim to accelerate parts of the contractual Lifecycle Baseline to reduce hazards from the site sooner. Timescales are still a major concern since structures will inevitably age and the time at risk from events could be greater than NII would wish. Therefore, we have been pressing SL to try to reduce timescales where possible.

SL intends to manage its decommissioning programmes with the help of milestones. While agreeing with this approach, we have yet to receive full descriptions for many of the milestones that are important for the achievement of decommissioning and therefore, risk and hazard reduction. We are pursuing this matter with SL.

The Lifecycle Baseline is the plan underpinning the contract between SL and NDA to run the Sellafield, Windscale and Capenhurst sites.

2.2 Deferral of Decommissioning

We have supported SL's focus on reduction of the significant risks and hazards associated with legacy ponds and silos. By giving this work priority, there is less resource for other work and SL has either deferred or slowed down other decommissioning work on the site. However, some of this decommissioning work was to reduce risks and hazards, and while of a lesser safety concern than legacy ponds and silos, nevertheless it is important that this work is carried out as soon as reasonably practicable. During the period of deferral, there is still risk and hazard to be managed and these may increase as the facility or plant ages. Currently we consider that SL has not provided us with the evidence we need that demonstrates it is taking steps to ensure that the risk from plants and facilities, whose decommissioning has been deferred, is ALARP. We have written to SL regarding specific projects and on the general issue of deferral, and will be pursuing this issue with SL in the coming months.

2.3 Decommissioning Safety Case Improvements

SL is running a number of real time pilots to develop more flexible, balanced and pragmatic safety cases for decommissioning projects, whilst ensuring appropriate focus on the key nuclear safety issues. Pilots include D Bay crack, Magnox Swarf Storage Silo crane and Pile Fuel Cladding Silo construction. We are fully engaged and supportive of the approaches being adopted by the licensee, but we have yet to see the final output from this work, which is expected over the coming months.

Under SL's current arrangements which were not written with some of the current decommissioning projects in mind, we could become an in-line sanctioning body, and this is not appropriate. Therefore, SL has proposed changes to its arrangements to prevent this. These arrangements take full account of SL's own internal hold points and enable the NII to be more targeted in its selection of regulatory hold points. The new process is known as "flexible permissioning". A trial has been in place for 12 months and has been applied to a range of legacy projects, and both NII and SL believe it has delivered real benefits in facilitating delivery of licensee programmes, whilst allowing appropriate levels of control and scrutiny by the regulator.

2.4 Control of Organisational Change

We have continued to monitor the implementation of the management of change activities arising from SL's voluntary severance programme. We identified some weaknesses in the arrangements for implementing change and SL is addressing these.

A further Organisational Self Evaluation Review process (ORSE 2), is now under way to establish the organisation best suited to delivering the scope of work over the next three years. Further organisational change may arise from this work and NII will be monitoring the output and implementation of any actions arising from the review.

3. Nuclear Decommissioning Projects

3.1 Legacy Ponds & Silos (LP&S) Operational Nuclear Safety

We have continued with our programme of planned inspection to gain assurance of compliance with licence conditions. No significant concerns were raised following our inspection of Licence Condition 22 Modification or Experiment on Existing Plant in the First Generation Magnox Storage Pond and Licence Condition 23 Operating Rules in the Magnox Swarf Storage Silo.

On the 11 October 2010 we served an Improvement Notice on Sellafield Ltd following our consideration of recent events reported to us regarding safety mechanisms not properly connected in the MSSS facility. Following our consideration of the events, we formed the opinion that Sellafield Ltd had failed to put in place arrangements that provide safe systems of work for plant modification work activities that are, so far as reasonably practicable, safe

without risks to health. Sellafield Ltd has responded positively to the Notice and has proposed a number of operational improvements which we are currently monitoring.

SL has successfully completed a number of projects in the First Generation Magnox Storage Pond (FGMSP) which supports overall facility risk reduction. Work completed safely includes isolation of redundant pipe work and high level service lines.

3.2 Legacy Silos Projects

We continue to monitor progress made by SL towards retrieval of the inventory from these facilities.

An inspection of the QA arrangements for the design and manufacture of the mobile caves to be used for retrieval of wastes from the Magnox Swarf Storage Silo (MSSS) concluded that SL has implemented adequate arrangements in this area.

Active commissioning of the 3rd Extension Liquor Activity Reduction project in the MSSS is now complete and the final commissioning report has been prepared. We are satisfied that a number of successful transfers have now been completed without incident contributing to the reduction of mobile activity in this part of the silos. Work continues towards preparing MSSS for waste retrieval operations; SL is in the process of applying for permission to use the building crane for lifts of up to 55t, as currently the crane is restricted to lifts of up to 10.5 t. This is required to support both the installation of the silo emptying plant and the removal of waste flasks out of the building. SL has also recently submitted a safety case in support of an application to construct a lateral restraint for the building which both provides support to the building in the event of a seismic event and supports key retrieval activities.

We continue to work with EA and SL on the development of a robust leak containment strategy for MSSS. We are hopeful that the current phase of this work will be complete in the next couple of months.

Of note within the Pile Fuel Clad Storage Silo (PFCS) is progress with the new argon passive off-gas system. A recent inspection confirmed the successful active commissioning of the system which will bring with it operational safety and environmental benefits. SL has recently submitted an application for construction of the superstructure and control room adjacent to PFCS. This is a significant step in the process towards commencement of waste retrievals. We are giving particular attention to this permission because of the significant safety challenges of construction activities adjacent to operational nuclear facilities.

3.3 Legacy Ponds Projects

We continue to monitor progress being made by SL with the projects aimed at hazard and risk reduction and those required to enable the retrieval of the inventory from these facilities.

Of note is the work to remediate degradation associated with the First Generation Magnox Storage Pond, which involves the use of novel techniques. We are monitoring SL's proposals for carrying out the work.

We are continuing to monitor progress on the major construction projects, Sludge Packaging Plant 1 and Local Sludge Treatment Plant. No significant safety issues relating to these projects have been raised since the last report.

NII has sought further evidence from SL regarding the work it has done on First Generation Magnox Storage Pond to satisfy the requirements of Specification 325(b)*; the licensee's original submission left some matters unanswered and raised additional questions about progress during the early years of the Specification. SL has provided this additional information to NII and we are currently assessing this to determine whether any further regulatory action is necessary.

**Specification 325(b) required that at least 90% of the total volume of potentially mobile ILW accumulated as sludge in the First Generation Magnox Fuel Storage Pond to be stored in modern stainless steel containment by the 1 August 2010.*

3.4 Sellafield Site Remediation and Decommissioning Projects (SRDP)

3.4.1. Inspections

We have carried out routine site inspection of the various plants and projects underway in the Decommissioning Directorate's Site Remediation and Decommissioning Projects (SRDP) unit. On the basis of these sampling inspections, we were satisfied that SRDP has shown adequate compliance with the Site Licence Conditions.

3.4.2. Repackaging of residues at the Residues Recovery Plant and transfer to the Finishing Plant for Storage

Crystals of reprocessing product residue were recovered several years ago during the post operational clean-out of the Residues Recovery Plant and remained in storage there. Following agreement by NII, SL repackaged the product residues into suitable containers to move the material. The repackaged residues were transferred, within additional temporary containment, to the Finishing Plant for storage.

NII assessed technical aspects of the project including the possibility of container failure to be satisfied that SL had shown that this is an unlikely event, and to confirm that the risk to the public would be extremely small. Specialist inspectors inspected the location for repackaging, the transfer route

and the arrangements for transferring packages from the material movement trolley into storage channels at the Finishing Plant store. They confirmed that there were no safety issues preventing the planned activities.

The store in the Finishing Plant is a more suitable location for this material and the transfers were necessary to facilitate further decommissioning at the Residues Recovery Plant and the adjoining Head End Plant.

3.4.3 North Group Compound

We investigated the collapse of a small section of roofing in one of the redundant legacy buildings, in the north of the site. Because the radiological hazard associated with these buildings is small, SL had originally informed us of its intention to defer the demolition of the buildings to help meet the site funding limit. However, SL's Decommissioning Directorate agreed that the condition of the buildings was deteriorating and was not satisfactory. SL has now secured funding to demolish the buildings.

3.4.4 Pile 1 Chimney

Together with the EA, we have continued to engage with SL on the decommissioning of this chimney that was contaminated in the 1957 Windscale fire and is an ageing structure. We have welcomed SL's re-assessment of the timescale for decommissioning this structure that has led SL to propose developing an accelerated programme.

3.5 Windscale

A consequence of the deferral of decommissioning work at Windscale to meet site funding limits is the reduced need for staff and the need for a smaller organisation. However, any reductions have to be in the context that Windscale is a separate licensee to Sellafield and needs to meet its duties under the Nuclear Installations Act. We have met with SL, on several occasions to discuss the implications of deferral of decommissioning for the management, organisation and reduced manning of the site, and were satisfied that changes will be made and justified in accordance with Licence Condition 36: Control of Organisational Change. One of the main changes that we have welcomed is SL's decision to merge Windscale into Sellafield's Decommissioning Directorate as this facilitates sharing of resource, experience and knowledge of decommissioning. SL did not need to discuss the changes but it has kept us informed and we were satisfied that it responded to our challenges and advice. The changes also affect Sellafield's Decommissioning Directorate and we were satisfied that this aspect of the change was also being managed properly. We have encouraged SL to remain vigilant with respect to morale of the Windscale workforce because of the significant changes that have occurred, and we will continue to monitor the impact of the changes.

Presently, Windscale and Sellafield are separate licensed sites. In the future, we would expect SL to seek to merge them into a single licensed site at a suitable juncture.

Regarding the safety aspects of deferral, our position is set out in Section 2.2 of this report.

3.6 Calder Hall

Calder Hall's heat exchangers and support steel work are exposed to the environment and consequently are subject to corrosion. However, the corrosion has proved to be more aggressive than could have been anticipated. SL has carried out an adequate review of corrosion and its implications, and this has led to a programme for the progressive removal of the Top Ducts which are the structures exhibiting the most corrosion. We have monitored its implementation, and recently we inspected the arrangements for removal of a Top Duct using a large crane and concluded that SL had developed a robust process for doing this work that includes continued learning and review of the work. Two Top Ducts were successfully removed in November 2010.

3.7 Sellafield Contaminated Land & Groundwater Management

NII together with EA continue to engage with SL to ensure that the radioactively contaminated land and groundwater management programme progresses satisfactorily. This includes a regulatory review that is currently taking place of SL's justification for deferring further characterisation and remediation of the Solid Active Waste Disposal Trenches, and the review of the SL characterisation reports from the Sellafield Contaminated Land and Groundwater Management Project. SL have indicated that they will produce a 'signpost' document in April 2011 that will summarise the outcome of the characterisation project, and identify any additional work that may be required. The regulators will review this document.

3.8 Separation Area Ventilation Project

Construction of the major structures forming the Separation Area Ventilation facility is moving forward with completion of the superstructure steelwork to the main plant room together with casting of the foundation piles and pile cap for the reinforced concrete vent stack. Slip forming of the 120m vent stack commenced in January and construction of the stack is expected in the next few months. The performance programme for the project has been updated to reflect current progress and commissioning of the complete facility is now expected ahead of the declared lifetime plan date. Overall, we are satisfied with SL's progress in constructing this important safety related plant.