

**Open Paper****NUCLEAR SAFETY ADVISORY COMMITTEE****REPORT FROM HSE/NSD FOR THE MEETING TO BE HELD NOVEMBER 2006****Contents****Policy Update**

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## **POLICY UPDATE**

### **Licensing of Low Waste Disposal Facilities**

1. A paper is to be prepared to seek the Commission's views on licensing proposals for Low Level Waste (LLW) activities.

### **CoRWM**

2. CoRWM published its report to Government and the devolved Administrations in July. The recommendations followed the draft lines, highlighting geological disposal as a viable option and the use of 'volunteerism'. We are engaged with Departments and Devolved Administrations in drawing up a response. In view of the report, we have brought forward planned work on regulatory guidance on waste packaging. This is a joint initiative with EA and SEPA and a common project plan is being produced. The plan includes consultation with industry with the aim of revised documents being available for trial use in 2007. We continue to work with Defra so that regulatory requirements are clarified as part of implementation proposals.

### **Charging for Pre-licensing assessment**

3. Fees Regulations are being prepared to introduce a more transparent mechanism for HSE's recovery of costs for pre-licensing work.

### **Licence Condition 35**

4. The accountancy issue of derecognition of liabilities has been resolved by co-ordinated statements from HSE and the Nuclear Decommissioning Authority (NDA) setting out HSE's expectations under Licence Condition LC35 'Decommissioning' and the NDA's funding commitments.

### **CDM Regulations**

5. The revised Construction Design and Management Regulations and associated Code of Practice were considered by the Health and Safety Commission and will now be put forward to the Minister for signing. There had been some concern expressed by the NDA on how they may be applied to their operations but this confusion was resolved.

## GENERAL ISSUES

### Overview

6. The summer period since July has seen the continuation of the increasing pace of change in the industry during which we have remained committed to ensuring that the nuclear site licensees retain focused on delivering high levels of nuclear safety. Of particular attention during this period has been the evidence of the increasing fragility of the ageing nuclear installations, evidenced particularly by the difficulties experienced by the British Energy reactor boilers at Hunterston B and Hinkley B. We continue to be closely interested in working in partnership with the Nuclear Decommissioning Authority (NDA) to secure positive impacts on licensee's standards of nuclear safety and radioactive waste management while accelerating decommissioning activities. To assist in this we have initiated a cross-regulatory project to review interactions between the NDA and the licensees to see whether the NDA is having 'controlling mind' influence on the sites.

7. Earlier in the year, British Nuclear Group Sellafield Ltd. (BNGSL) pleaded guilty to breaches of licence conditions associated with last year's leak in the Thorp plant. On 16 October BNGSL were sentenced at Carlisle Crown Court. The company was fined £500,000.00 and ordered to pay costs of around £68,000. The fine was split under the following Licence Conditions: LC27 'Safety Mechanisms, Devices and Circuits' incurred £300,000.00; LC24 'Operating Instructions' and LC34 'Leakage and escape of radioactive material and radioactive waste' incurred £100,000.00 each. HSE will produce a public report within the next few months. We now hope to move on to use the lessons learnt as the basis for driving improved safety culture at Sellafield. Additionally, we have reminded the wider nuclear industry, through issuing a Press Notice; maintain continued vigilance in maintaining all the barriers required to secure high standards of nuclear safety.

### Strategic issues

8. We are in discussion with DTI to bring the Office of Civil Nuclear Security (OCNS) (the regulator for security matters in the civil nuclear industry) within HSE's Nuclear Safety Directorate. We are also in discussions with DTI on the viability of bringing the Safeguards function into our organisation. We believe that this programme of consolidation would provide numerous synergies and other benefits.

### NDA

9. Work has continued to establish an overall programme of work to re-organise the industry in line with the NDA's competition plans. This has proved complex in some areas because of the foreseen problems in establishing stand-alone licensees and the desire to minimise the impact of any restructuring on the continued safe operation of the Sellafield site. This is particularly important in as Magnox reprocessing moves to its end point.

10. NDA has kept us fully informed during the development of the proposed sale of British Nuclear Group (BNG) and we have had the opportunity to comment upon the proposed options that have been considered.

## **Site Visits**

11. The Chief Inspector has continued with his programme of site visits. Over the period covered by this report Dr Weightman visited: Sellafield with the Deputy Chief Executive (Operations) of HSE and with the Chief Executive of BNG (18 – 20 July); Oldbury (25 July); Devonport (3 October); and witnessed a NII inspection of the vitrification plants at Sellafield on 11 October. These visits continue to be invaluable in obtaining at first hand an impression of the efforts being made to maintain and improve health and safety standards, the impact of our regulatory activities, the people and plant on the nuclear sites, and to be able to discuss with site safety representatives and managers their concerns and issues.

## **Magnox Electric**

12. We issued a generic Licence Instrument (LI) under Licence Condition LC36 'Control of Organisational Change' to permit Magnox Electric Ltd. (ME) to commence the change, which will regionalise its organisational structure. This is the initial step towards the ultimate restructuring into two separate Licensee companies in line with the NDA's strategy.

## **UKAEA**

13. Several discussions have been held with both the NDA and UKAEA to discuss the future restructuring of UKAEA. We issued a strongly worded letter to UKAEA noting that it was informing its staff of moves that had not yet been agreed under LC36. There has been considerable debate over the number of staff the new UKAEA Ltd wish to take out of the licensees and work is continuing in this area.

## **Drigg**

14. Work is ongoing to relicense the Drigg site to the new Low Level Waste Repository (LLWR) site licensee company. The proposed new relicensing date of the end of February 2007 is later than that originally envisaged because of difficulties experienced by the site in making itself "stand-alone". However, this is still commensurate with the NDA's competition plans for this site.

## **Working with other Regulators**

15. We have continued to work closely with other regulators, in particular the Environment Agency (EA) and the Scottish Environment Protection Agency (SEPA). Our work with OCNS has been particularly close as a part of the programme of regulatory consolidation.

16. HSE implements arrangements for the High Active Sealed Sources and Orphan Sources Regulations 2005 (HASS 2005). HSE, working closely with the EA, SEPA and Northern Ireland Environment and Heritage Service has confirmed its role as Competent Authority for UK nuclear licensed sites under HASS 2005. As part of the arrangements made under HASS 2005, we will be cooperating with the environment agencies to establish and maintain a national database for highly active sealed sources. We will use our powers under the Nuclear Installations Act 1965 and site

licence arrangements to obtain copies of operational records relating to the holding of HASS on nuclear licensed sites.

## **Energy Review**

17. We provided a major input into HSE's response to the Energy Review, especially in considering pre-licensing assessments of new designs of nuclear reactors. A stepwise approach to pre-licensing is proposed that assesses a reactor design on a generic basis, ultimately leading to issue of a Design Acceptance Certificate. This will involve applicants putting their safety cases in the public domain, subject to security and commercial considerations, and us taking into account any comments from the public in coming to our regulatory decision. A second stage will consider organisational any remaining site-specific aspects before a site licence can be granted.

18. The government is looking for HSE to provide guidance, by around the end of 2006, on how this process will be implemented. Work is in hand to provide this guidance. As part of this work, we have had discussions with reactor vendors and potential licensees and have set up a joint regulators coordination team with EA, SEPA, and OCNS. In addition, a joint regulators stakeholder workshop was held on 17 October, where we explored the issues to be considered in the guidance. The event brought together HSE, EA, SEPA, OCNS, and Department for Transport, with participation of DTI. Delegates included representatives from reactor vendors, UK nuclear licensees, potential licensees, engineering and consultancy firms and non-governmental organisations. The workshop and the issues debates will be publicized on the HSE website and there will be opportunities for public comment after our assessment commences. We have also opened discussions with overseas nuclear regulators with a view to sharing information, knowledge and experience with them.

19. The indications from industry are that we could be asked to assess around three different designs starting in the first half of 2007. We are discussing with DTI options for some system for prioritisation, but in any event, our ability to start new reactor assessment is heavily dependent on being able to recruit additional new staff.

## **NuSAC SCR – October Meeting 2006**

20. The 3 October meeting of NuSAC's Sub Committee of Research (SCR) was attended by the Research Coordinators of British Energy, Magnox Electric, BNG Sellafield Ltd, UKAEA and NDA, NSD and a representative of HSE's Chief Scientist. British Energy, NDA and Nirex gave technical presentations on their Graphite research programmes. These presentations covered the behaviour of Graphite in operating reactors, the options to treat waste graphite to facilitate its disposal and work to support the safety case for graphite disposal in an ILW repository.

21. The main business of the meeting was the evaluation of the nuclear safety research programmes that had been undertaken by HSE (Levy), British Energy, Magnox Electric and BNG Sellafield. The SCR commented that, in future, they would prefer just to hear about the significant achievements made or difficulties encountered by the programmes, rather than detailed reviews. The SCR also commented on the need to establish a research strategy and arrangements to cover

new build, which will be a topic for discussion at the next NuSAC/SCR meeting in February 2007. The SCR noted the lack of a UK-wide nuclear industry forum to discuss Human Factors topics.

22. The meeting discussed the possible change of the SCR to a Review Group under NuSAC. This Review Group would sample and review the adequacy of the sampled research programmes and report to NuSAC, rather than the present arrangement of reviewing in detail every research programme in every technical area. This proposal was generally supported, although concern was expressed regarding the extra workload that the proposed arrangements may impose. Proposed changes to the DTI guidelines for the SCR were discussed. It was concluded that these changes, if implemented, would facilitate the change to a Review Group under NuSAC.

### **PSA targets, Safety Performance Indicators (SPI) and Performance Metrics (PM)**

23. DWP intends to finalise its public sector agreement (PSA) targets for 2008/09 – 2010/11 by early January 2007. These include those of HSE. HSE has decided that its PSA targets will remain broadly similar to those currently in place, with three major hazards sector targets for nuclear, offshore and onshore COMAH. As part of developing a better approach to measuring our impact, the performance of the industry and improving our operational feedback system, we have set up a Precursor Metrics Project to obtain licensee safety performance indicator data from January 2007, with implementation from April 2007. This fits in with our overarching Performance Metrics Project that is also being implemented from April 2007. From that date, we should have licensee and regulatory SPI data for 2007/08, which could form the basis of a PSA target from 2008/09.

## **OPERATIONAL ISSUES**

### **Operating Power Stations**

#### **Dungeness A**

24. The station will cease power generation in December 2006. In preparation for defuelling following shutdown, we continue to assess the station's Post Generation Safety Case, revised emergency arrangements and decommissioning arrangements. As part of this, the station's initial plans for the disposal of intermediate level waste; low level waste and final site clearance were reviewed, and a Licence Instrument to continue dissolution of Magnox waste was issued.

25. Dungeness A gave an adequate demonstration of its emergency arrangements at the annual, level 1 exercise.

26. The station's proposed changes to a post generation organisational structure and preparations for the new Quality Management System were found to be satisfactory following a themed inspection across Magnox Sites of their Management of Change Arrangements.

27. We have consulted stakeholders over Dungeness A's decommissioning plans and given Consent under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations 1999.

#### **Dungeness B**

28. Reactor 21 shutdown for its three yearly statutory outage on 14 June 2006 and Consent No. 511 was issued on 28 July 2006. The reactor was taken critical on 7 August. An incident occurred on 8 August where it was discovered that the reactor had been taken critical with two control rods fully inserted into the reactor, unbeknown to the operators. The reactor was manually tripped and all post-trip cooling worked satisfactorily. The incident was assigned an INES 1 rating. We carried out an investigation into this incident and concluded that the root causes were procedural non-compliance and inadequate procedures. We have written to the station expressing concern at this situation and requested improvements in these areas. The reactor returned to power on 18 August 2006.

29. Additional to the start-up Consent, two Licence Instruments were issued during the period. Agreement No. 509 was issued on 25 May 2006 covering changes to fuel clad steel production. Agreement No 512 was issued on 19 September 2006 covering the use of Bilbaina pitch in fuel stringer graphite.

30. A team inspection took place between 5 and 7 September into the station's arrangements made under Licence Condition 28 'Examination, Inspection, Maintenance and Testing'. Some areas for improvement were identified and a letter has been sent to the station requiring improvements.

## Hartlepool

31. Reactor 1 operated at nominal full power for most of the period. There was a brief shutdown to de-energise a 275kV export cable to allow it to be inspected after it was damaged during an event described below. Reactor 1 was also shutdown in late September due to a hydrogen leak on the generator; the planned refuelling outage in October was brought forward to the same shutdown. Reactor 2 was shutdown for a scheduled outage in June, and returned to service in August. On 30 August, during the power raising sequence the turbine tripped due to leakage from the seawater cooling pipes and the reactor was manually tripped. On the subsequent restart, a boiler tube leak occurred and the reactor was again shutdown to repair the leak.

32. Five separate and unrelated INES 1 events occurred during the period. The first involved a forklift truck falling through non-load bearing covers and damaging a 275kV cable below. Improved arrangements to identify and barrier such covers, together with tighter controls of vehicle movements have been implemented to the site inspector's satisfaction. The second event involved damage to a CO<sub>2</sub> connection to the Fuelling Machine, principally due to operator error. The station Director has discussed standards and expectations individually with all members of the fuel route team and improved human performance behaviours have resulted. We are satisfied with the approach taken and the outcomes from it. The third event involved the incorrect setting of a diverse protection system during power raising for which the prime causal factor was the trip dials, which are difficult to set and read accurately. Improved trip dials are being installed during outages and routine equipment servicing exchanges. The new trip dials are much clearer to read and should remove this error trap. The fourth event was the routine export to Holland of a laundry container, which on receipt was found to have contact dose rates in excess of limits. The investigation of this event is ongoing. The final event occurred on 25 September when a buried cast iron cooling water pipe fractured outside the Turbine Hall, extensive flooding and a significant hole in the ground resulted. The investigation of this event and justification for a return to service is ongoing.

33. A re-demonstration emergency exercise in March showed the need to demonstrate improved arrangements for command and control in the emergency control centre. A further re-demonstration of these aspects was successfully completed in June following additional training by the station.

## Heysham 1

34. Reactor 1 was tripped manually on 30 May to permit the investigation and repair of a boiler tube leak. The reactor returned to service mid-July and continues to operate at nominal full power. However, in August, the station reported a rotor earth fault on turbine generator 1 and therefore Reactor 1 continues to operate at full power but with reduced flexibility in relation to generation of MVARs. The station is monitoring the situation and, unless the rotor performance degrades further, will address the earth fault during the 2007 statutory outage.

35. Reactor 2 commenced a refuel outage on 23 August, which had been extended to permit the replacement of a gas circulator and undertake inspections required to enable the station to implement the medium-term safety case for the boiler closure units (BCUs). The station delayed the outage by seven days to consider its options after tests on a replacement gas circulator revealed that it was not fit for operation and it was unable to source a suitable alternative. We are currently considering the station's request for a license instrument agreeing to extending operation of the existing gas circulator from January next year until the 2008 statutory outage.

36. Radiographic examination of three (of eight) of Reactor 2's BCUs located all active prestressing wire anchorages. The examination indicated that all principal prestressing components are in their expected locations with no evidence of significant degradation. However, the radiographs did reveal unexpected wire tails at a number of locations. A visual inspection at one candidate location failed to locate the wire tail. The station has prepared a safety case, which argues that the radiographs confirm the integrity of the prestressing systems. They attribute the wire tails to some artefact of the BCU assembly process; however, they have been unable to locate any construction record to support this claim. At our request, the station sought the advice of the BE Nuclear Safety Committee before returning reactor 2 to service. The reactor returned to service on 22 September and continues to operate at nominal full power. Further work is in hand in this area.

37. Other significant developments this quarter include: (i) implementation of the Work Execution Centre, which is the first point of contact for persons wishing to communicate with the Central Control Room and is intended to minimise the risk of distracting operations staff; and, the Outage Control Centre which introduces a Command and Control function to management of reactor outages.

## **Heysham 2**

38. The safety performance at Heysham 2 remains satisfactory. The station has operated steadily during the period with no unplanned trips on either reactor. One event at INES level 1 has been reported to us in the period. Work has begun to scope the next PSR for Heysham 2, as it approaches the end of its second operational decade. The station hosted a three week peer-review mission from a WANO team that began on 18 September 2006.

## **Hinkley Point B**

39. During the period covered by this report, both reactors at Hinkley Point B have operated at nominal full load. There has been one unplanned manual trip of Reactor 3 due to a black control rod falling into the core. There have been 2 automatic trips of Reactor 4; one due to overcooling caused by excess feedwater to the boilers and a second due to loss of supply to station transformer 4 during washing of the 275KVA substation by National Grid. The reactor safety systems functioned correctly during all these events.

40. A site incident was declared on 11 September 2006 following the release of 3 tonnes of clean CO<sub>2</sub> from a safety relief valve. There was one minor injury and no radiological consequences. Investigations into the root cause are ongoing.

41. A Prohibition Notice was issued on 5 September 2006 concerning the means of access to the main charge hall crane and requiring improvements to prevent falls from height.

42. There were media reports in July 2006 (principally The Guardian and BBC News website) that HSE inspectors had raised serious questions over the safety of the graphite cores of the UK's AGRs in the light of cracking observed in some core components. The reports were based on a Greenpeace report which had drawn selectively on extracts from our assessment reports provided to the Stop Hinkley Campaign under a Freedom of Information request. We are satisfied that the reactors are safe to operate at present, the graphite degradation is a longer-term issue that may be life limiting.

43. British Energy brought the commencement of the Reactor 3 2006 statutory outage forward. This was due to a higher number of defects than expected being found in the Hunterston B Reactor 3 boiler tubes, which are an identical design to Hinkley Point B. A justification for continued operation was produced for the operating Hunterston B and Hinkley Point B reactor 4s, to be reviewed once the inspection findings from the Hinkley Point B Reactor 3 are available. These have shown an increased incidence of cracking and the licensee has prudently decided to shut down the reactor 4s at Hinkley Point B and Hunterston while it considers the implications of the inspection results in more detail.

### **Hunterston B**

44. During the reporting period, Reactor 4 has operated at nominally full load until its shutdown as indicated above. Reactor 3 was tripped for its periodic shutdown on 15 July. The outage has been conducted well and results of inspections and maintenance have generally been satisfactory. However, the number of defects found in boiler bifurcations and tailpipes was much greater than anticipated. Consequently in-vessel inspections and repairs have required a much larger dose burden than originally planned (although well within the statutory requirements) and the start up date has been delayed pending production of a return to service safety case. This is one of a number of cases required before Consent can be issued to restart the reactor.

45. There have been a number of INES 1 events related to improper handling of nuclear safety related fire doors. The station is actively considering improvements in their arrangements for managing such doors.

### **Oldbury**

46. The station has completed 100% inspection of the graphite surface in all fuel channels in the Reactor 2 core flattened region and has identified no defects of significance.

47. Reactor 1 continued to operate as normal up to its statutory outage started on 1 September 2006. Magnox Electric has taken longer than expected to produce a full technical justification for returning Reactor 2 to service, but is aiming to submit a case to its Nuclear Safety Committee (NSC) in late November 2006. We are

progressing the assessment of some of the supporting information in collaboration with its Graphite Technical Advisory Committee.

48. Once the company has gained the endorsement of its NSC, it will apply to us for consent to return Reactor 2 to service. It is not yet clear how much time will be required to come to a view on the acceptability of the case. Magnox Electric plans to apply for consent to restart Reactor 1 after its statutory outage once Reactor 2 has been returned to service.

### **Sizewell A**

49. During the recent period of operation, the station safety performance has been satisfactory. No events above zero on the INES scale have occurred. No more new fuel will be loaded into the Sizewell A reactors, there is sufficient reactivity in the reactor cores to reach end of life. The site is currently preparing defuelling and decommissioning activities ready for the cessation of electricity generation on 31 December 2006; however, our assessment of the post operation and defuelling safety case is not yet complete.

### **Sizewell B**

50. Sizewell B operated continuously from its return to power following its seventh refuelling outage in May 2005 until shutting down for its eighth refuelling outage on 1 September 2006. There have been three events rated 1 on the INES scale during this reporting period. One involved a scaffold interfering with Technical Specification related HVAC (Heating Ventilation Air Conditioning) plant making it inoperable. The installed scaffold prevented the damper from opening thereby preventing the cooling fan from operating as required by the Tech Specs. Improvements have been made to control and supervision of scaffold work in sensitive plant areas. Another event related to a fire door being left ajar due to a failed self closer. The licensee has reinforced the need for individuals on plant to take responsibility for closing fire doors and reporting defects promptly. Finally, during the outage, work commenced on fitting the low pressure seals to the thimble tubes in Mode 5 when the work was required to be carried out in Mode 6 (head removed). The nuclear consequences of this event are trivial however; we are concerned that the Duly Authorised Person (DAP) released plant for work inappropriately. The licensee has taken adequate corrective action.

51. Refuelling outage eight is a stretching project and includes the replacement of the Reactor Pressure Vessel Head, replacement of the fuel handling machine in the cavity, inspection of 50% of the Steam Generator tubes and the replacement of three low pressure turbine sets on one generator as well as the normal routine maintenance activities. There are approximately 1800 persons on site making it the largest outage ever at Sizewell B.

52. Progress with the RPVH replacement project is good. The old head has been dismantled and removed to medium term storage in the outage building and the new head is in containment having the control rod drives and the rest of the upper head package reinstated. The new fuel handling machine has been installed and is due to start commissioning trials shortly. Inspections of the Steam Generator tubes have identified two tubes with minor wear due to fretting at the anti vibration bars. One

tube has been plugged. This is the first tube plugging at Sizewell B. It is unusual for Model F steam generators to operate for as long as ten years without having to plug tubes due to fretting or mechanical debris damage. British Energy adopts the current EPRI guidelines for inspection and management of steam generators developed in response to USNRC's generic letter on the topic.

### **Torness**

53. During the recent period of operation, no faults have occurred that have exceeded the design basis for the station and its safety case, and no events have been reported above a rating of unity on the INES scale, which corresponds to a plant anomaly.

54. During the current period, we have investigated an event that occurred on 2 August 2006 involving complete blockage by seaweed of the main cooling water intake drum-screens, which is an initiating event considered in the Station Safety Report. The event resulted in supplies of main cooling water being lost for a period and consequentially water supplies to the reactor seawater system, which provides a safety role, being lost for a time on one reactor and restricted on the other. The station responded to the event by shutting down both reactors within 70 minutes of receiving the first indication of impaired main cooling water flow and provided adequate post trip cooling. During the course of the event, the station reported that Operating Rule requirements were complied with, no radioactivity was released and no persons were affected.

55. The station has undertaken a Significant Adverse Condition Investigation (SACI) that has identified a number of corrective actions to improve their arrangements to respond to similar events in the future. In the interim, the station completed a programme of work to implement improved arrangements for responding to loss of main cooling water, prior to return to service of the reactors. The outcome from the SACI and the station recovery plan are likely to lead to further measures to strengthen the Site arrangements in affected areas.

56. Our investigation identified eight areas for improvement, which are broadly consistent with the findings from the company SACI. As a result of our investigation, we have requested the Station Director to present details of the corrective actions taken in response to the unplanned power excursion event that occurred on 30 December 2005, and included contributions from similar factors. This latter event was notified to NuSAC in our submission for June 2006.

### **Wylfa**

57. Both reactors have continued to operate safely. There were no reported events above a rating of zero on the INES scale. Reactor 2 was shutdown on the 7 April for its statutory maintenance outage. Work broadly proceeded in line with the programme and the formal reactor start up meeting was held on 26 May. Actions were confirmed at this meeting that needed to be completed prior to the issue of a start up consent. These were primarily associated with completion of repairs to in vessel components. A Consent to reactor start up was issued on 25 July.

58. During return to service of Reactor 2 an event occurred whilst Turbo Alternator 3 (T/A 3) was being recommissioned resulting in damage to steam pipe work supports associated with T/A 4 and adjacent plant. A BNG Technical Panel of Inquiry investigated the root causes of the event and its findings and recommendations to prevent a re-occurrence were reported in September 2006.

59. The Decision Date for the Wylfa PSR was 30 September 2004 and the decision to allow continued operation was given in a letter and was subject to satisfactory progress being maintained on the follow-up work. We are satisfied with the progress. The only outstanding work is to complete the production of a Probabilistic Safety Analysis (PSA) for the fire hazard. We are satisfied with the progress on this work and have confidence that it will be progressed to a timely conclusion.

60. Representatives of the Radiological Protection Institute (RPII) of Ireland will visit the Station on 24 and 25 October 2006 to improve their understanding of the plant's design, safety features, and the local emergency planning arrangements.

### **Decommissioning / Defuelling Power Reactors**

#### **Berkeley**

61. Building demolition, clean up and radiological surveys continue in preparation for the planned partial de-licensing at the end of 2006. A Level 2 demonstration exercise took place on 20 September. It was deemed an adequate demonstration of the Local Authority's off-site plan produced under REPPiR.

#### **Bradwell**

62. Removal of fuel elements from site is completed. We have undertaken checks to confirm that all fuel elements have been removed from the cooling ponds and survey results have been accepted. We have formally approved decommissioning emergency arrangements and the Site are planning to go to full decommissioning management arrangements on 1 October 2006.

#### **Chapelcross**

63. Progress is being made on preparations for defuelling the reactors. Much of the equipment installation on the lead reactor has been completed and is now being tested. All fuel has been removed from the cooling ponds and sent off site. Fuel removed from the reactors will be put into flasks within the reactor building for direct despatch to Sellafield and hence will not use the cooling ponds.

64. On-site work has started on the demolition of the cooling towers, with the culvert bridges between pairs of cooling towers having been removed.

### **Hinkley Point A**

65. Considerable progress has been made over the reporting period with various decommissioning projects. Clearance of the new Intermediate Level Waste (ILW) store site is nearly complete and construction is shortly to start. Delagging work on the boilers is progressing well, and sludge recovery work is also progressing. A project to retrieve solid ILW waste has been designed and is due to commence shortly.

### **Hunterston A**

66. The station achieved 5 years without a lost time accident at the end of August; this is a significant achievement considering the nature of the work conducted on the site over this period. Decommissioning projects have progressed during the last reporting period. In particular, the ILW store construction is now complete and fitting out work has commenced. Elsewhere, a new modular active effluent treatment plant is close to completion; this will allow the existing active effluent treatment plant to be disconnected and decommissioned. Design of a project to retrieve solid ILW waste is well advanced. The ILW store has been timed for completion in order to accept encapsulated ILW product from the retrievals project.

67. Two Operating Rules have been removed during the reporting period, with our Approval, covering relative humidity in the pressure vessels and pond water level. The controls applied by the licensee remain in place, but the hazard against which these Rules protect was judged sufficiently low to justify relinquishing the need to specify the requirements as Operating Rules.

### **Trawsfynydd**

68. Decommissioning and waste retrieval and conditioning activities continue to progress. A fifth box of fuel element debris has been filled and grouted. This required a licence instrument, as the initial agreement was limited to four boxes as part of commissioning trials. The construction of the ILW store is ahead of programme. Civil engineering and preparation of buildings for the care and maintenance period (Safestore) has begun and is being assessed.

## **Nuclear Fuel Cycle Facilities**

### **BNGSL Sellafield**

#### **BNGSL Sellafield – Events**

##### **THORP - Feed Clarification Cell Leak Investigation**

69. HSE brought a criminal prosecution against BNGSL in connection with this incident. The prosecution follows a detailed investigation by HSE. BNGSL has

pleaded guilty to breaching three conditions attached to the Sellafield site licence granted under the Nuclear Installations Act 1965 (as amended). The sentencing outcome is noted earlier in this report.

#### Contamination event in Analytical Services

70. In October 2005, two contract joiners were working in a former plutonium laboratory in the Analytical Services Building, and during removal of part of the skirting board, the two installed air samplers in the lab went into alarm with high  $\alpha$  activity. The final internal dose estimate for one of the joiners was 15.8 mSv which gave a cumulative dose for the calendar year of ~17 mSv. The Site Inspector and a Radiological Protection (RP) Specialist Inspector carried out a follow-up inspection, which identified several different areas for concern. BNGSL have submitted a response to the issues raised. Regulatory action is being considered. We were informed that a tank within the Highly Active Liquor Evaporation and Storage (HALES) complex was found to have floated due to water ingress into the tank compound. During the event the tank remained operational. The tank forms part of the HALES cooling water system and is located in a pit mostly below ground level outside B215. It collects sample water from the monitoring systems that serve the cooling water circuits, and if activity is detected an automatic isolation valve diverts the outlet to the low active drain. Increased water ingress into the pit was not dealt with due to a combination of inadequate detection and pumping capability. The investigation revealed a poor standard of asset care coupled with concerns about adequate resources and indicators of a poor standard of safety culture. Together with EA, we produced a joint letter expressing concern, and a joint inspection of HALES asset care will be undertaken in November 2006.

### **BNGSL Sellafield Operations & Projects**

#### Fuel Handling Plant

71. The rate of processing corroded fuel in the Fuel Handling Plant (FHP) has decreased this financial year due to decanning problems associated with fuel breakage and plant operability issues caused by handling difficult fuel. BNGSL is investigating all the options in an effort to increase the corroded fuel reprocessing rates. We have reinforced with BNGSL the importance of processing corroded fuel in accordance with the Magnox Operating Programme.

72. There has been a gradual unexplained increase in aerial discharges over recent months from FHP. The 12-month rolling discharge to the end of August has been found to be slightly above the plant limit for Cs – 137. The plant limits are a small percentage of the overall site limits and at the current levels, the increased discharges have little impact on worker and public doses and the environment. The maximum radiation dose to a member of the public that could occur as a result of the discharge made at the plant limit for FHP for a full 12-month period would be less than 0.2 microsieverts.

73. BNGSL's investigation into the reasons for the increased discharges have so far been inconclusive but the latest indications suggest that they are strongly linked to the operation of the pond purge system and recent work on the building ventilation system. BNGSL is using its in-house ventilation expertise to investigate the issue further. We are working closely with the Environment Agency to monitor BNGSL's ongoing investigations

Late submission of B229 Safety Case

74. The current safety case for B229, the Analytical Services Building, was implemented in 1997, and is a fully developed Safety Case (fdSC) that underpins all plant operations within B229. The fdSC will expire at the end of March 2007. The B229 revised / revalidated safety case was originally planned for delivery by the end of March 2006, with a possible date as late as the end of June 2006, and these dates were detailed in the BNGSL Periodic Safety Review (PSR) programme. Because of delays to the submission of the revised safety case, BNGSL submitted a proposal to us to change the PSR programme dates. Evidence has been provided by Analytical Services to detail the measures taken to recover the delivery of the B229 safety case. However, the revised / revalidated safety case will be submitted at least 9 months late, and consequently there may be similar delays to the completion of the Safety Significant recommendations that have been identified during the PSR.

75. Because of the considerable delays, and the non-compliance with BNGSL's mandatory arrangements that have been approved by us, it is considered reasonable and proportionate to issue an Improvement Notice under LC 15(1). The Improvement Notice requires that submission of the relevant parts of the safety case should be completed by the dates proposed in BNGSL's letter. The Improvement Notice was issued on 25 September 2006.

THORP Return to Service

76. BNGSL has embarked upon a large amount of work to justify the restart of the plant. We have permissioned remediation work to begin and BNGSL hoped to finalise this work around the end of September/early October.

77. BNGSL also has a programme of work to deliver the information required to close out recommendations that have been raised by us as a result of the leak. The delivery of this information by BNGSL is behind programme and steps are being taken to ensure that there is no mismatch in expectations regarding the quality of the information needed.

78. Estimates have been made within NSD on the likely timescales for completing the necessary work to permit the restart of the plant. Initial estimates indicated a restart date of early January; however we are working closely with BNGSL with the aim of bringing this date forward.

Sellafield - Site Wide Shield Door Project.

79. We have continued to inspect the implementation of the ongoing site wide shield door improvement project, across the Sellafield site. Significant engineering improvements have been demonstrated by the licensee, at a range of plants recently inspected by us, enhancing the safety of plant operators. We have succeeded in agreeing an acceleration of the completion of shield door improvements at the Vitrification Plant. The licensee is developing a programme, for our agreement, to complete some further shield door improvements at the THORP plant.

Legacy Ponds and Silos

80. BNGSL have embarked on a programme of work aimed at discharging the improvement notice served in April 2006 following the Wastewater pipe incident. This work includes physical plant improvements, some of which have already been

completed, together with measures to improve procedures to help avoid such incidents in the future.

81. BNGSL have undertaken a review of their strategy for removing sludge from Discharge Pond No.2. The review has confirmed existing plans remains the most appropriate way forward. Overall progress in hazard reduction is still falling short of expectations with difficulty in placing contracts cited as a factor.

82. A local effluent treatment plant was successfully installed into the Piles discharge pond. This will help reduce operator dose and reduce discharge levels.

#### Plutonium Finishing and Storage

83. On 10 October 2005 we issued BNGSL with a Consent under LC31 (2) to restart feeds to the conditioning vessels of Finishing Line 5 at Sellafield. This consent was subject to thirteen commitments from BNGSL to address safety related issues arising from our assessment of their submission for restart of the plant. Currently, two of these commitments have not been completed within their declared timescales.

84. The project to provide a permanent neutron monitoring system has experienced a number of delays. The most recent delay has been as a result of a major unforeseen plant failure. In addition to these delays, regular review of the programme to ensure that an adequate and robust system is delivered has resulted in a number of revisions and improvements that have extended the scope of the original project. During the recent operational problems BNGSL have taken advantage of glove box availability and accelerated aspects of the project where feasible. However, even with this acceleration the revised date of delivery for a fully commissioned system is now expected to be the end of April 2007.

85. Provided the current implementation of the interim neutron monitoring system continues to deliver an adequate level of protection from potential build-up of fissile material we will accept justifiable delays in delivering the permanent system rather than see corners cut in order to implement an ill-conceived system by a specified date.

#### B241 Floc Retrieval Plant

86. Since providing our Agreement to an extension of active commissioning of B241, enabling BNGSL to recommence re-suspension of the buffer tank and continue with the reduction of the hazard within B241, both B241, the Enhanced Actinide Removal Plant (EARP) and the Waste Packaging and Encapsulation Plant (WPEP) have been experiencing operational challenges that have limited the number of batches of Floc transferred from B241 and treated through EARP and WPEP. It is envisaged that as part of developing and commissioning a new process problems will arise and contribute to the learning and understanding that will enable the eventual delivery of an operational process that can undertake Floc retrieval routinely.

#### Sellafield Integrated Waste Strategy

87. The Sellafield Integrated Waste Strategy (IWS) was delivered by end June 2006. As expected it is a statement of the current position on the Sellafield site and highlights where insights from the Integrated Strategy for Sellafield could be included. The report additionally includes the output of a pilot exercise to generate the gap analysis required to deliver a fully integrated Waste Strategy.

88. An IWS draws together all the waste challenges, the aims and objectives to address the problems and the context for the treatment processes reflecting the complexity of the particular site. For Sellafield there are in excess of 800 different waste types. We are undertaking further work in this area.

#### Integrated Strategy for Sellafield

89. BNGSL has delivered to the NDA a strategic plan for the delivery of the first stages of a decommissioned Sellafield site. We have assessed the strategies within this plan and have written to raise a number of issues regarding the assumptions made in this plan that potentially affect Sellafield's ability to assist in delivery of a UK wide decommissioning strategy and continued safety of the UK nuclear fuel cycles.

90. These concerns include closure of the Thorp facility by 2011 and lack of recognition that the fixed date closure of the Magnox Reprocessing Plant will leave a legacy of several hundred tonnes of Metal fuel with no contingent solution.

91. We have had initial discussions with BNGSL on the contents of the letter and a response from BNGSL is awaited.

#### Highly Active Liquor Evaporative Capacity

92. We continue to take close interest in the continued integrity of HASTs and evaporators. Recent analysis of HAST cooling coil failures appears to indicate that the failures may be occurring more frequently than had been previously estimated such that HASTs may have to be withdrawn from service earlier than anticipated. This could have significant ramifications on operations, the "one in four" HAST spares policy and on the HAL Stocks strategy. We continue to engage with BNGSL on possible improvement options.

93. We recently agreed to the continued operation of Evaporator A for three months. The time limitation reflects uncertainties related to corrosion and allows BNGSL more time to carry out further corrosion studies and inspections of higher temperature parts of the evaporators, which should help to reduce uncertainties on BNGSL's predictions. Evaporator B remains shutdown though a safety case for return to service using the jacket only is expected. Evaporator C is available for service but is also affected by corrosion concerns.

94. BNGSL is pursuing an option to apply nitrate dosing to the complete HALES cooling water system to inhibit corrosion. The project presents a number of significant safety and logistical issues which are the subject of ongoing discussions. Regulatory discussions on nitrate dosing will continue.

#### Waste Vitrification Plant (WVP)

95. Production of vitrified waste containers this quarter was affected by planned and unplanned outages to all three vitrification lines. Line 1 has begun an extended planned shutdown to implement modifications to improve the container production process, work which is the result of collaboration with COGEMA under the Vitrification Assistance Programme. After a period of project evaluation, Line 2 will undergo similar modifications; Line 3, which is of more recent design, will be modified later as appropriate. We have maintained regulatory interest in the outage

work but have not had cause to intervene, on the basis of proportionality and higher priority work elsewhere.

#### Residue Export Facility

96. The construction of a Residue Export Facility (REF) adjacent to the Vitrified Product Store (VPS) is part of a wider project to manage the safe transfer of a number of containers of high-level waste to overseas customers of BNGSL. The transfer is associated with government policy on waste substitution (Cm2919, Review of Radioactive Waste Management Policy, July 1995).

97. The project is progressing well with all major plant and equipment installed, and inactive commissioning has started. We have learned that the project is likely to be delayed by a combination of late delivery of equipment and problems with the manufacturing of a flask that will be used to transport containers of high level waste. It is understood that the delays are unlikely to impinge on container production by limiting container capacity in VPS. We are engaging regularly with BNGSL on regulatory issues in advance of the start of active commissioning early in 2007.

#### HLWP - HAL Stocks Specification

98. BNGSL continues to provide us with monthly reports summarising the quantities of highly active liquor (HAL) contained in the highly active storage tanks (HASTs). These figures are used by us to judge whether BNGSL continues to meet the HAL Specification issued in 2000 (which provides a limit on the amount of HAL that can be stored at any time and promotes HAL stocks reduction). Continued good performance of WVP coupled with the extended outage at Thorp has meant that HAL stocks are currently at their lowest levels since the Specification was issued and well below that required by the Specification. Consequently, we are content that BNGSL has kept within the requirements of the Specification.

99. We are reviewing the Specification. BNGSL has shared its forward predictions of future HAL generation and WVP performance and we are considering whether the Specification needs to change in the interests of safety.

#### **Low Level Waste Repository at Drigg**

100. The project to set up a Site Licence Company at the repository, separate from the BNGSL organisation as a precursor to NDA competing the site, is well underway. We remain closely involved and intend to carry out a number of readiness inspections at key stages, such as shadow working.

#### **Springfield Fuels Ltd**

101. With the completion of the decommissioning of the A26 facility, the current phase of the Springfield Fuels Ltd (SFL) major plant decommissioning programme is nearing completion. The next significant phase of decommissioning work will be when the decommissioning of the Magnox Fuel production facilities is started. However, SFL intend to continue to operate some of the Magnox Fuels Production Plants to process some of the legacy residues currently stored on the site.

102. Following securing contracts to produce Hex material for the next 10-15 years SFL has changed their future strategic plan. SFL had originally planned for the Site to become focussed on Oxide Fuel Production only but is now seeking opportunities to further utilise other existing facilities on the Site.

103. Generally, we have been satisfied with the recent safety performance on the site although a few issues are subject of ongoing discussions with SFL.

### **Urenco – Capenhurst**

104. URENCO Capenhurst Ltd (UCL) has embarked on an extensive number of projects to expand the operations on the site. These include the construction of the Tails Management Facility, which will deconvert Hex tails materials into a more stable oxide form, major extensions to the enrichment plants, a new Central Waste Handling Plant and new raft storage areas. We are engaged in ongoing discussions with UCL regarding these projects.

105. Recent inspections of the operations at UCL have raised no significant issues.

### **BNGSL Capenhurst**

106. We have continued to inspect the ongoing decommissioning projects, with an acceptable outcome. These decommissioning projects are reducing the remaining nuclear hazards on the site. We are continuing to press the licensee and NDA for tangible acceleration of the disposition plans, for the legacy uranium hexafluoride ("Hex Tails") materials, currently stored on the site in significant quantities, together with the disposal of some other waste materials. We are inspecting the licensee to ensure that the licensee's emerging proposals for significant reductions in the site workforce, as short term decommissioning projects are completed, are compliant with the requirements of the site licence. The retention by the licensee of appropriate "core competence" and "intelligent customer" capabilities will need to be adequately demonstrated to us.

## **Nuclear Research Sites**

### **Incidents**

107. UKAEA informed us of a suspected Plutonium intake by an employee working in the Fuel Cycle Area (Dounreay). We have investigated the matter and are currently considering an appropriate level of regulatory response.

### **Dounreay**

#### **Dounreay Cementation Plant (DCP)**

108. UKAEA has now developed proposals for man entry to the shielded encapsulation cell to complete the repairs and decontamination activities necessary for restart of DCP. The radiation exposure to the workforce from this undertaking is expected to be low. Access to the encapsulation cell will require the removal bulk

shielding and a number of important items of equipment. The equipment will need to be carefully recommissioned before the plant can be restarted.

#### Dounreay Materials Testing Reactor (DMTR) Pond

109. A small but highly radioactive tube, of dimensions 45cm long by 4.5cm in diameter, was found at the bottom of the DMTR pond. The tube is believed to be part of an irradiated Dido/Pluto type fuel element. The pond is undergoing clean out in preparation for decommissioning and all fuel was considered to have been removed.

#### Decommissioning of the Dounreay Fast Reactor (DFR) and Prototype Fast Reactor (PFR)

110. After a lengthy assessment and inspection process, we issued a Licence Instrument to UKAEA at the end of June 2006, agreeing to the start of inactive commissioning of the NaK disposal plant at DFR. The commissioning process is being monitored in preparation for moving to the active commissioning phase. Other decommissioning activities at both reactors will be subject to regulatory hold points, notably, the development of the process for removing the hazardous alkali metal residues from the vessels and circuits of the reactors which will take place following removal of the bulk coolants.

#### **Winfrith**

111. The sale of Waste Management Technology Limited (WMTL) by AEA Technology plc to Vision Capital Partners VI was completed in July. WMTL continues to operate five sets of facilities on the UKAEA Winfrith nuclear licensed site, complying with UKAEA's Tenant Safety Requirements in doing so. WMTL was informed by UKAEA in 2005 that because of the accelerated decommissioning that is taking place on the site, the leases for the WMTL facilities would not be extended beyond their current expiry date of March 2010. WMTL has now written informing us that they intend to open discussions with the adjacent English Partnerships' Winfrith Technology Centre regarding relocating its operations there in time for the expiry of its leases on the UKAEA site. The proposed move has already raised questions about what constitutes a prescribed activity for the purposes of the Nuclear Installations Act 1965 (as amended) and the precedent such a move would set for other Low Level Waste operators. The matter is being given further consideration with a view to clarifying the position for WMTL.

#### **Windscale - B13**

112. We closed the Improvement Notices that had been served on both UKAEA and Nexia Solutions that required improvements in Safe Systems of Work and Control and Supervision in the B13 facility.

113. UKAEA has now started to rebuild regulator confidence in its plan for engineering improvements in B13. In order to start this process, the Head of Site and a small team visited our offices at the beginning of September.

## **GE Healthcare Ltd**

114. Successful demonstration emergency exercises have been held at Amersham and Harwell.

115. We gave permission allowing modifications to the safety systems on Cell 3 at Harwell, and, thereafter, normal operations to resume after more than a year.

## **Imperial College**

116. We gave permission for a new reactor trip, which was installed during the annual shutdown in August.

117. Discussions are taking place with Imperial College on decommissioning, including the implications of Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations.

## **Defence Nuclear Sites**

### **Defence Facility Regulation**

118. In general, the safety performance at the defence facilities inspected by us, namely the Atomic Weapons Establishments at Aldermaston and Burghfield, Devonport (Devonport Royal Dockyard Ltd - DRDL), Barrow (BAE Systems Marine – BAESM), Rolls Royce Derby (Rolls Royce Marine Power Operations Ltd – RRMPO), Clyde Naval Base, Rosyth Royal Dockyard Ltd (RRDL) and the Shore Test Facility at Dounreay, continues to be satisfactory.

119. However, it is noted that a key risk assessment for the Atomic Weapons Establishment at Burghfield has been delayed, leading to a need for some short-term contingency measures to secure confidence in nuclear safety management, and also that formal enforcement action has been necessary at Devonport (Devonport Royal Dockyard Ltd - DRDL). In both instances, follow-up activity is being planned to ensure that necessary improvements are put in place.

120. Intervention strategies, developed jointly with MoD's Defence Nuclear Safety Regulator (DNSR), are being delivered across the sector. This way of working is maximising the use of limited HSE/NSD and DNSR resource through a process of joined up working and complementary regulation to ensure that intervention activities are proportionate and appropriately targeted.

### **HSE/NSD and DNSR Partnering**

121. The annual workshop with DNSR in June was a joint propulsion programme and weapons programme event. The event, which focused on building relationships and furthering the partnered approach, was considered to be a success by all who attended. The keynote speech on 'Partnering in the Strike Carrier Project' by Rear Admiral Nigel Guild was well received and an action plan has been drawn up take forward the key outcomes from the event.

## **MoD General – UK Staged Improvement Programme (SIP)**

122. We have contributed to MoD workshops and working groups that are developing a UK Staged Improvement Programme (SIP). The purpose of the UK SIP is to utilise the knowledge, experience and lessons learned during the formulation of the Devonport SIP to inform investment decisions associated with the wider MoD naval nuclear propulsion programme related estate. Early regulatory engagement within the development stage of the process is considered to be a high priority to ensure that appropriate attention is given to nuclear safety related improvement projects and that they are subsequently delivered to a properly prioritised programme.

### **Barrow**

123. Together with DNSR, we jointly inspected BAE SYSTEMS Submarine's operational readiness for regulatory release of the Astute Project Hold Point that allows the delivery and acceptance of nuclear fuel onto the Barrow Site and reactor core build in the New Core Facility. The regulatory inspection team concluded that, subject to completion of the small number of actions, which are considered to be normal business, the licensee is ready for release of the hold point.

### **Devonport**

124. We have continued to monitor MoD's progress towards implementation of the strategy for dealing with laid up submarines at Devonport prior to the commencement of decommissioning. During the period a further redundant submarine (HMS Sovereign) arrived at Devonport for storage prior to commencement of the Defuel, De-equip and Lay-up Preparations (DDLDP). Three fuelled submarines are now stored at Devonport awaiting the DDLDP process which cannot commence until improvements to the existing facilities are completed. The MoD has advised that funds for the current financial year have been made available to DRDL to recommence the Future Nuclear Facilities (FNF) detailed design and analysis work. The project will allow preparation of a safety case for the removal of the 80Te crane, design work for upgrading central promontory structures, and provision of a new Reactor Access House to enable the defuelling of redundant submarines to proceed. The current programme suggests that the new facilities can be completed by 2012 and we are pressing for an improvement to this timescale. Until the new facilities are brought into service we are satisfied that, subject to satisfactory monitoring arrangements, the redundant submarines can be safely stored in a fuelled state.

125. We completed our investigation into events involving worker contamination associated with the use of temporary containments in 9 Dock at Devonport. Our investigation revealed shortfalls in DRDL's control of work arrangements, specifically with respect to the production and review of risk assessments. The HSE Enforcement Management Model was used to inform our regulatory response. An Improvement Notice was served on DRDL, focussing on improvements to workplace risk assessments for nuclear implicated work.

**Portland Z-Berth**

126. We are continuing to offer guidance to Dorset County Council and other stakeholders in respect of plans to put in place off site emergency arrangements, in accordance with the Radiation (Emergency Preparedness and Public Information) Regulations, for a Z-Berth at Portland Port. The arrangements will be tested through an emergency exercise before consideration is given to use of the port by a nuclear powered vessel.

**Rosyth**

127. Work continues on the RD83 project to decommission the majority of areas used for nuclear activities on site. Further discussions have taken place on the timescale for decommissioning the remaining areas with a view to being in a position to delicense the site at a date earlier than previously anticipated.

**Derby**

128. We continue to monitor the licensee's performance to complete the Neptune Test Reactor PSR documentation by the extended submission date of end of October 2006. Progress is currently satisfactory.

**Atomic Weapons Establishment**

129. AWE work continues to increase as a consequence of the £1.05bn extra funding over three years that MoD declared in July 2005. This work is associated with safety cases for replacement facilities and the modernisation of existing ones to maintain the existing stockpile of nuclear warheads safely and efficiently.

130. AWE has carried out a recent review of its safety case process and has identified a number of issues and improvement actions. One of the issues was the need to improve integration of the safety case process and the engineering design. The company has taken steps to consider how best this can be done and has visited the nuclear licensee at Devonport to look at the model used for the Dock Refurbishment programme.

131. We are keen to see early completion of the new Assembly/Disassembly Facility and are in discussion with AWE and MoD to finalise the programme.

**Conventional Health and Safety**

132. During the period covered by this report, eight benchmarking conventional health and safety inspections have taken place. There were no obvious problems found at Dungeness B, Windscale, Hinkley Point B, Hinkley Point A, Harwell and Hartlepool. Overall, conventional health and safety conditions are good at these sites. Problems with conventional health and safety were identified at Dungeness A and Hartlepool and a Prohibition Notice was issued at Hinkley Point B for dangerous work at height practice on the overhead crane in the charge hall area.

**NSD ISSUES****Organisation/Resources**

133. As of the 1st October 2006, we had 167 inspectors in post. This is short of resources required for predicted future work (excluding any new build work) and has impacted on strategic and assessment work given that we have maintained priority to site inspection work. However, as this continues pressures are now showing here as well.

134. Our management continues to reprioritise work to ensure that safety significant tasks are covered. Projects of work are underway to counteract the issue of resources. In 2006/2007, there are plans for both internal and external recruitment campaigns as well as work streams to maximise retention of talent.

135. We are also looking to booster our capability for training and development and stakeholder engagement.

**Security Informed Nuclear Safety**

136. We are continuing to work closely with OCNS (Office of Civil Nuclear Security) on security informed nuclear safety matters. Our advice has continued to result in a number of changes to existing facilities and to proposed projects. We have also held bilateral discussions with the US Nuclear Regulatory Commission and the Canadian Nuclear Safety Commission.

**Project to Benchmark and Review the NII SAPS**

137. The comments received on the revised SAPs have been addressed and the revised SAPs are nearing completion. At the same time two other documents are being developed. The first is an explanation note on the numerical targets and legal limits used in the SAPs. The second document explains how the comments received during the stakeholder engagement have been addressed.

138. Plans are now being developed to bring the SAPs into operation, including internal and external seminars to explain their application and appropriate timescales for phasing out assessments based on the 1992 version of safety cases that are currently being prepared.

139. Work is under way now to prepare or up-date Technical Assessment Guides that are needed to support the revised SAPs. Some of these guides are likely to be useful in assessing industry proposals for new nuclear power stations and so may be prepared in the near future.

**EFQM**

140. We continue to use the EFQM Excellence Model to guide our business improvement activity and to work towards achieving the Investors in Excellence, (IiE) Standard. We were formally assessed by an external assessor against the IiE

standard in August 2006 and this identified the need to make further progress in two areas. An action plan is in preparation and we still hope to achieve our original target of securing IIE recognition by February 2007.

### **International Work**

#### **The European Council Working Party on Nuclear Safety (WPNS)**

141. In 2004, the European Council asked the Euratom Community to undertake an extensive consultation with stakeholders before any EURATOM legal instruments are developed on nuclear safety and safe management of spent fuel and radioactive waste. WPNS was given this task, which was divided into three areas: nuclear safety; spent fuel and waste management; and financing decommissioning.

142. All the work is on target to be finished by the end of 2006. The final report should be publicly available. It will consist of a short report that will include conclusions and recommendations with more detailed explanations of the finding in the annexes.

143. This report will be discussed at the European Council's Atomic Questions Group in December. After agreement in this Group, the report will be presented to the Council. It is likely that the German Presidency will start to implement the final recommendations during the first half of 2007.

#### **IAEA International Regulatory Review**

144. Following the April 2006 independent review, led by the IAEA, of HSE's regulation of existing nuclear power plants and our readiness to regulate and licence new designs of reactors the suggestions and recommendations have been converted into programmes of work within NSD. An internal strategic project has been established to take forward the progress of this work in preparation for future IAEA regulatory reviews.

#### **Western Nuclear Regulators Association (WENRA)**

145. The WENRA reference levels for operating power reactors have been updated to reflect comments from stakeholders, including those from European reactor operators. Discussions on and agreement to these changes will be part of WENRA's meeting in November. We are committed to apply these assessment reference levels and hence ensure they are met as far as is reasonably practicably at UK nuclear power stations by 2010. A report on the approach to achieve this is in preparation and will be sent to other WENRA members during October. The report will be publicly available.

146. We are active in the development of reference levels for waste management and decommissioning, which are due to be ready for consultation during 2007.

**INRA**

147. The Chief Inspector attended a very useful meeting of the International Nuclear Regulators Association at which various issues were discussed in an open way.

Mike Weightman  
HM Chief Inspector of Nuclear Installations, Director of NSD  
October 2006