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NUCLEAR SAFETY ADVISORY COMMITTEE
REPORT FROM NII FOR THE MEETING TO BE HELD 12-13 OCTOBER 2005

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GENERAL ISSUES

Overview

1 There have been encouraging signs that the nuclear power licensees have continued to make positive improvements in their approach to securing nuclear safety. Proactive and conservative decision making has been evident in response to issues associated with both Magnox and AGR stations. This reflects an increased attention to leadership, human performance, cultural change and investment. It appears also to have had a positive impact on operational performance.

2 Looking to the future for we will continue to ensure that further structural change in the industry is accomplished with due regard to nuclear safety.

NDA

3 We have continued liaising closely with the NDA as it beds down into its role. Discussions have embraced: the need to ensure that the licensee remains the controlling mind of the operations on licensed sites; the strategic approach of NDA to enabling safer, earlier, more cost effective Magnox decommissioning; securing the continued focus of licensees on operational safety during times of change; and, the interface between NDA, the licensees and HSE/NII. We included NDA representatives in a visit to the Chinon nuclear site in France during which we learnt about EDF's approach to decommissioning the French Magnox reactors within a 25 year timescale. The NDA has published its draft strategy for comment and we will be responding to the proposals.

Site Visits

4 Since the last report the CI has visited Torness, and has continued to engage with senior management in the licensees in striving for sustained operational excellence. Discussions were also held with safety representatives and other stakeholders.

Emergency Arrangements

5 Regulations made under the Civil Contingency Act recognise the existence of arrangements for dealing with emergencies at licensed nuclear, COMAH and pipeline sites. Nevertheless we are working closely with HSE colleagues to prepare HSE for its role as a Category 2 responder. We are also working closely with Nuclear Emergency Policy Liaison Group (NEPLG) members to ensure that responses to nuclear emergencies are fully integrated with the wider civil contingency arrangements. At a recent NEPLG meeting we strongly supported proposals to co-ordinate the arrangements for response to accidental and malicious events and to invite the Office of Civil Nuclear Security (OCNS) to become a member of NEPLG.

Security Informed Nuclear Safety Issues

6 We continue to work closely with OCNS on security informed nuclear safety issues. Following publication of a US National Academy of Science report on fuel storage ponds we asked licensees with such ponds to review their earlier studies into pond safety. We have received satisfactory responses.

Stakeholder Interactions

7 In addition to our recent stakeholder meeting and to assist in reviewing the consistency of our regulatory decision making, we have initiated a survey of the industry to gather more information about these concerns. To date 175 questionnaires have been forwarded to a representative sample of licensee staff and it is hoped to complete the analysis of returns by the end of October.

OPERATIONAL ISSUES

Operating Power Stations

British Energy – General

8 The re-licensing of Hunterston B and Torness from BEG (UK) L to BEGL was completed on 1 July 2005.

Magnox Electric – General

9 The licensee is continuing to respond to NDA competition by looking further at how it can reduce central overheads and how it can accelerate the decommissioning of Magnox reactors.

Dungeness A

10 During the recent period of operation the station's safety performance overall has been satisfactory. No events above zero on the INES scale have occurred.

11 Progress has been maintained on the production of the safety case for defuelling after final shutdown and the final element of the 10 yearly PSR has been submitted to NII.

Dungeness B

12 At the time of writing one reactor at Dungeness B is operating, with the other undergoing a scheduled statutory outage.

13 The station has continued to experience a continuing reduction in the rate of nuclear reportable events, with 9 events in the 12 months to 31 March 2005 and none up to the time of writing. Other key safety performance measures have also shown improving trends.

14 As previously reported, we noted deficiencies associated with command and control at the Forward Control Point (FCP) during the station's Level 1 emergency exercise in April 2005. We have since witnessed a satisfactory demonstration of the station's emergency arrangements, observing a significant improvement in this aspect.

15 In the previous report we noted that nine failed fuel elements remained in the reactors at Dungeness B. Following discussions (which reinforced the opinion of the licensee's Nuclear Safety Committee), the station has since adopted a programme under which all currently identified failed fuel elements will be removed from the reactors by April 2006. One channel containing failed fuel has since been defuelled, and a second is being defuelled at the time of writing. Following removal, the failed fuel is to be held in buffer storage and then bottled for storage in the Ponds pending transfer to Sellafield. In the meantime we are continuing discussions with the Licensee

to monitor progress and ensure that the programme delivers optimised risk reduction.

Hartlepool and Heysham 1 – Boiler Studs

16 We have maintained close monitoring of the licensee's response to emergent issues on boiler studs. The Hartlepool/Heysham 1 boilers each have a primary restraint comprising 48 studs, each approximately 2 m long and situated within vertical guide tubes disposed around the perimeter of the boiler closure units. An inspection, originally at Heysham 1 reactor 1 during its outage, revealed that some of the guide tubes contain standing water (thought to result from known pressure vessel cooling water leaks), and there are signs of corrosion. This raised questions about the safety case. The inspections were expended to reactor 2 at Hartlepool which was shutdown for refuelling. British Energy developed a case for resuming operation. This was built on inspecting all studs on these shut down reactors to be inspected to justify their operation for the next period. The inspection involved using ultrasonic NDE, as part of the case to address the potential for stress corrosion cracking. The case for the continued operation of the uninspected operating reactors, reactor 2 at Hartlepool and reactor 1 at Heysham 1, revolved around available inspection data, the existing secondary retention system and a demonstrated consequences case. Later, in September, British Energy shut down reactor 2 at Hartlepool for a refuelling outage and also conducted a programme of stud tests and further inspections on this reactor. These revealed a black acidic sludge in a stud guide tube, which was not addressed by the interim safety case for continued operation. Therefore, the licensee has taken the decision to keep all four reactors at Hartlepool and Heysham 1 shut down while a more robust case is developed.

Hartlepool

17 In additional to the above issue, on 5th September a member of station staff noticed that a short section of the secondary shutdown system nitrogen supply pipework was heavily corroded. The station concluded that the system could not be classed as operable and shut down the operating reactor, reactor 1, until the system could be repaired as required by the Technical Specifications.

Heysham 1

18 During the last period reactor 1 continued to operate at its nominal full power until shut down in response to inspection findings from other reactors on boiler studs. Reactor 2 continued its scheduled Statutory Outage, which commenced on 7 May.

19 The station (and Hartlepool) has continued to enhance passive measures aimed at protecting the plant against the consequences of turbine disintegration. The height of the hazard protection wall between the turbine hall and reactor building has been raised from 3.5 to 6 metres. Other enhancements have improved the protection of essential systems from the

consequences of a turbine failure. These measures underpin the medium term safety case and the station intends to implement further measures to secure a long-term case.

20 Although Heysham 1 continues to be challenged by emergent issues that have had a significant impact on generation, overall the safety performance remains adequate.

Heysham 2

21 During the recent period of operation, no faults have occurred that have presented a significant challenge to 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.

Hinkley Point B

22 The previously fairly steady period of operation of both reactors has been interrupted by trips and unplanned shutdowns. Reactor 4 had two manual trips and a small boiler tube leak and reactor 3 had an automatic trip, all in July. None of these were related to very significant events, but the trip of reactor 3 was a result of human performance and control and supervision shortfalls among Operations Department staff. This is an area that British Energy is targeting in its current performance improvement programmes.

23 In March 2005 we wrote to the Station asking for a safety review and a programme of improvement aimed at preventing carbon dioxide releases from its CO2 plant. BE responded positively. A further uncontrolled release of clean CO2 in August, indicated that the review needed to be enhanced. Also, parts of the planned CO2 plant improvement programme are slipping. We are considering further action.

24 In July, we agreed to the installation of two significant temporary additional cooling systems, in support of the programme to replace Reactor Cooling Water Cast Iron pipework.

25 After discussions it has been agreed that the planned outage for reactor 4 in October will be longer than usual to allow for additional graphite core inspections.

26 Two events occurred where the reactor gas pressure marginally exceeded the Approved Nuclear Safety Requirement limit. These were not onerous in safety terms but, together with other events, highlighted issues surrounding the reporting of events to NII. These have been discussed with British Energy to clarify the Site Licence Condition requirements in this area.

Hunterston B

27 Up to the time of writing no events have been reported above 1 on the INES scale.

28 Reactor 4 commenced its three-yearly statutory outage on 24 June 2005. Our inspection and assessment of the outage and of the key safety case changes did not reveal any concerns. Our Consent to the start-up of reactor 4 at Hunterston B was issued on 8 August 2005.

29 On 29 July 2005, unfortunately a contractor suffered serious injuries to his legs during the reinstatement of shielding walls associated with the re-heater outlet penetrations. The site inspector followed up this event on 2 and 3 August. This revealed a failure to provide and maintain plant and safe systems of work to prevent blocks from falling during the dismantling or re-building of shielding associated with the reheater outlet penetrations. In the site inspector's opinion this constituted a breach of section 2 (1) of the Health and Safety at Work etc. Act 1974 and, consistent with HSE's enforcement management model. An Improvement Notice was issued requiring the station to remedy these deficiencies.

Oldbury

30 Reactor 2 started its planned statutory outage in June 2005. This shutdown was also in accordance the agreement not to continue to operate the reactor if the graphite weight loss in key areas reached 34.5%. All of the work not related to graphite is now complete and the reactor could be returned to service if the graphite issue can be resolved.

31 Magnox Electric is attempting to provide the necessary materials properties data to demonstrate that the graphite retains sufficient strength to perform its safety function at weight loss levels above the 34.5% agreed limit. The initial approach was to use samples whose weight loss was accelerated by thermal oxidation (as distinct from radiolytic oxidation); however, the testing and analysis of this material did not give the necessary confidence. A programme of testing and analysis of high weight loss samples recovered during the reactor 2 outage is now in hand with a view to providing supporting materials data before the end of 2005. The company will not be applying for our Consent for returning reactor 2 to power before this information is available.

32 There remains no reason to be concerned about the operation of reactor 1 up to the agreed weight loss limit.

33 There was an extended interruption of the operation of reactor 1 in July and August of 2005. A leak on the high-pressure steam system revealed a failed weld on a thermocouple pocket. Investigation led to the discovery of several other potentially affected pockets fitted as part of a modification during the 1970s. It appears that inappropriate welding consumables were used when the pockets were fitted resulting in particularly poor weld material properties. Magnox Electric has removed and replaced all the affected pockets and has given a robust justification as to why the problem does not affect other similar pockets or areas of plant. The reactor was returned to service in late August.

Sizewell A

34 During the recent period of operation the station safety performance has been satisfactory. In August 2005 Reactor 2 successfully completed its final outage prior to station closure in December 2006.

Sizewell B

35 Sizewell B has operated continuously since its return to power following its seventh refuelling outage in May. We have assessed a safety submission to substantiate a reduction in the error allowances on the reactor power calorimetry. The case was accepted and in June we approved changes to the Nuclear Safety Requirements (Operating Rules under Licence Condition 23) that meant that the reactor could now be operated up to 101% full power. BE has now taken the reactor to 101% full power and has remained at this power during the rest of this reporting period**.**

36 Progress with the Reactor Pressure Vessel replacement head is on target to meet the planned change during refuelling outage 8 in late 2006.

Torness

37 Torness has operated steadily over the period covered by this report with no major safety concerns. The Station's improvement programme continues to be implemented at a realistic pace and, although much yet remains to be done and fully imbedded, already there is evidence of safety and operational benefits.

Wylfa

38 Lord Hunt, DWP Minister responsible for HSC & HSE, visited Wylfa on 5 September as part of a series of such visits to various types of sites regulated by HSE. Justin McCracken, Acting Chief Executive HSE, also visited the site

39 Both reactors have continued to operate safely. No reported events have been above a rating of zero on the INES scale. At the end of August the Station reported the discovery that some of the new tie rods that transmit load onto four additional boiler support brackets, installed during the 2005 Reactor 1 biennial outage, may not be within their design specification. We have confirmed that there is an interim case for continued reactor operation. This allows continued operation while an independent investigation by Magnox Electric is completed and a revised safety case for longer term operation is completed.

40 We investigated a letter of complaint expressing concern about individuals being subjected inadvertently to asbestos whilst working in the Station's turbine hall mezzanine floor. A letter of response that summarised the outcome to the investigation has been issued. The investigation resulted

in our sending a letter to the Station that requires it to advise us on how it will address three issues associated with its asbestos management arrangements.

41 Since the last report several meetings have been held to progress safety cases associated with fuel and also the fuel route. In particular this included a visit to Berkeley to see the equipment being developed to recover the irradiated fuel in Dry Store Cell 5 that was damaged by rainwater leaking through the roof in the early 80's.

Decommissioning/Defuelling Power Reactors

Berkeley

42 Decommissioning progress has slowed. The licensee has recognised that project implementation, particularly with respect to the Active Waste Vault Retrieval Project, needs to be improved. A Berkeley Task Force has recommended that the Berkeley Centre area should be prepared for sale to a commercial developer for development as an energy focused business park. Successful delicensing of the area is central to this recommendation.

Bradwell

43 Bradwell has made good progress with defuelling during the period. Reactor 1 has now been emptied of fuel and reactor 2 has only a 10% fuel load remaining. Work is now underway to verify that there no fuel remains within the fuel route or anywhere else on the site. These checks are expected to be completed by March 2006.

44 Bradwell is currently implementing a revised staff structure to take it through the decommissioning phase. New Emergency Arrangements are also being introduced to reflect the reduction in radioaclogical hazard on the site.

Chapelcross

45 The site has continued work on the production of Post Operational Safety Case (POSC) supporting documentation, including the development of a safety case covering fire as a nuclear hazard. A proposed Emergency Plan, that reflects the POSC reduced hazards and risks, has been produced and we will be witnessing a demonstration of its effectiveness.

46 Upgrade work on the fuel route is progressing according to programme.

47 Contamination events resulted in the site placing an embargo on sending fuel flasks to Sellafield. Investigations identified the cause of the problem and remedial measures were put in place, which resulted in the lifting of the embargo.

48 Further progress has been made on removing the large quantities of Low Level Waste (LLW) that have accumulated on the site

Hinkley Point A

49 Hinkley Point A failed to provide an adequate demonstration of their emergency arrangements. The principle shortcoming of the demonstration was the length of time taken to rescue the two casualties. The exercise will be repeated in October.

Hunterston A

50 After a spate of conventional safety incidents the new site manager halted operations across the site until a thorough review of safety had been undertaken with BNG Project Services.

Trawsfynydd

51 The retrieval of ILW waste streams is continuing. The first box of fuel element debris to be retrieved from the south vault has now been encapsulated in cement. Work to partially lower the boilers is progressing satisfactorily and a custom made lifting rig is being installed. Preparations for the next phase of ponds decommissioning, scabbing of the ponds to remove contaminated material, are in hand. An alliance has been formed including BNG Project Services, Costain, Amec and Aker Kvaerner to work collaboratively on decommissioning projects.

Nuclear Fuel Cycle Facilities

Sellafield General

Events - General

52 A number of events have occurred on the site associated with THORP, Product Finishing Line and Storage, and High Level Waste Plants that raised questions on safety management and culture. BNGSL had responded separately to these issues but has recognised the benefits of integrating and implementing any improvement initiatives across the site. This has resulted in the development of an Integrated Site Improvement Plan, which we support in principle although the details have still to be presented to us. We continue to examine some of the wider issues

Events - THORP Leak with Feed Clarification Cell

53 Our investigation into this incident is ongoing and is likely to continue for some time yet. As well as taking statements from personnel, we are investigating the technical reasons for the pipe failure, wider issues in THORP and liaising with the licensee on their options for plant configuration and return to service Consideration of return to service will be dependent on the

submission of appropriate modification proposal(s) and any further regulatory requirements resulting from the ongoing investigations.

54 There has been significant interest into this event and requests for information under the Freedom of Information Act.

Events - High Active Liquid Evaporation & Storage (HALES)

55 There was release of activity via the cell extract ventilation system. Current indications are that this occurred over a roughly one hour period in late morning on 25th August 2005 and around 1000MBq of β activity was released. Whilst the radiological consequences of the incident appear to be small, we are closely monitoring the licensee's action in response to it as it represents an apparent loss of control over the Highly Active Liquor (HAL). We have started a joint investigation into this event with the Environment Agency. The levels were only just above the normal background radiation levels and did not exceed any statutory limits. The discharge was just detectable by the Site Perimeter Monitoring System.

Events - Cs 137 Discharge, Vitrification Plants

56 In late April this year, Vitrification Line 1 was being restarted following a period of maintenance work to replace equipment. As part of the restart, technicians were calibrating pressure gauges linked to an item which had been replaced. This procedure temporarily increased the pressure in the associated equipment and caused a very small release of radioactivity into an adjacent area within the plant. All procedures were correctly followed and plant conditions were quickly returned to normal. BNGSL carried out a full investigation and a number of improvements to operating procedures were made as a result. We have monitored BNGSL's response and its actions to address their recommendations.

57 In late June this year, routine analysis results from aerial discharge accountancy samples from the Vitrification Plant discharge stack showed an unexpectedly high level of Caesium 137. These samples have been subject to further detailed analysis and have indicated that as a result of the event in April, the rolling twelve month authorised discharge limit for Caesium 137 for this particular stack has been exceeded by fifteen percent. No other isotopic limits were exceeded and the Caesium 137 limit for this particular stack represents about 2 percent of the overall site-wide limit for Caesium 137. Any further action is a matter for the Environment Agency.

Operations – High Active Liquid Evaporation & Storage (HALES)

58 BNGSL continues to comply with the specification limiting the total volume of HAL and are in compliance with the specification limit on oxide HAL.

59 HALES continues to face a number of challenges including: the issues arising from the failure of evaporator B, the need to consider the future

strategy for providing evaporation capacity, the activity break through in HAST 13, and to engineer the return to service / recovery of evaporators A and B. We are closely monitoring this large volume of work given its safety implications.

Operations - Magnox Plutonium Finishing & Storage

60 Finishing Line 5 remains shutdown as a result of the previously reported Direction issued under LC31 (1) to halt feed to the conditioning vessels of Finishing Line 5. We have formally advised BNGSL of the prerequisite requirements that need to be addressed before the Executive will consider a request for consent to restart the feeds to Finishing Line 5. The list of requirements includes a number of issues identified during a readiness inspection of PF&S undertaken in August by a team of 6 NII inspectors. BNGSL continues to work towards addressing these requirements. Also included in the requirements is the outcome of the assessment of the Phase 1 Periodic Safety Review.

61 We will continue to take cognisance of the impacts that a protracted delay in the restart of the finishing line operations will have across the Sellafield site in terms of increased nuclear/radiological risk in other plant areas, and other “knock-on” effects.

Operations - Legacy ponds & silos

62 There has been progress in developing realistic plans and critical path diagrams for decommissioning of the legacy ponds, in particular for meeting our Specifications to remove 90% of the sludge from the facilities by 2009 and 2010 respectively. Physical progress has been made on the plants themselves in carrying out necessary preparatory work and enabling tasks in a safe manner. For example the beams that support the skip handler - a key item of equipment for remediation - have been found to be in a better condition than anticipated, offering the prospect of accelerating the project.

63 However, the unavailability of Process Cells on the UKAEA site in the short term to accept nuclear material from the Pile Pond has forced BNGSL to consider how to decouple the tasks performed by the Process Cells from the Pile Pond critical path.

64 As a result of the THORP leak board of inquiry report, BNGSL has taken a closer look at the early Magnox Storage Pond and discovered small leaks from historic crack repairs to the wall. Work is ongoing to improve this situation.

65 During the transition to NDA ownership of the site and liabilities, we had issues related to the continuance of funding for decommissioning legacy silos. These appear now to have been resolved. We are working with the licensee and the NDA to ensure that similar discontinuities do not occur in the future.

66 For the wet silo, we have continued to monitor and encourage progress on projects to prepare for retrievals, and also on projects related to hazard reduction in the interim. Remote repairs carried out in recent years re-established cooling water connections to allow cooling of sludges in the compartments in the first extension. Improvements planned should improve safety margins in the period leading up to retrievals. In response to a minor contamination control event in June, BNGSL management were reminded of the need for rigor in job planning and control in the wet silo environment.

67 We have also continued to monitor and encourage progress on the projects for decommissioning the dry silo. The licensee is developing concepts for retrievals machines and structures that build upon experience on-site and elsewhere. Issues also include the choice of product, treatment options and storage options for the wastes from the dry silo.

Drigg

68 We continue to work closely with other regulators (EA & OCNS) to ensure that operations on the site are conducted with due regard to safety, environmental and security interests. This close co-operation has assisted in facilitating our objective in securing the disposal of radioactive waste where suitable disposal routes exist, and in enhancing the radioactive waste management at the site.

Springfields

69 Springfields Fuels Ltd (SFL) have announced that they have obtained a contract from CAMECO to produce Uranium Hexafluoride (Hex) for the next 10 years. This contract will entail the continued operation of the Kiln and Line 4 Hex plants. These plants were originally planned to close when the production of Magnox fuel ceased at Springfields. We will continue to seek to ensure that SFL can demonstrate that the plants can be operated safely throughout their extended lifetime.

70 The current phase of the major plant decommissioning programme is nearing completion. The next significant phase of decommissioning work will commence in 2-3 years time when the decommissioning of the Magnox fuel production facilities is started. This programme is consistent with the policy to decommission and demolish facilities as soon as possible after operations have ceased.

71 Generally we have been satisfied with safety performance on the site.

URENCO - Capenhurst

72 URENCO Capenhurst Ltd (UCL) has embarked on a project to construct a plant to deconvert hex tails materials into a more stable oxide form. We welcome this development as it is in line with our policy of passsive safe forms for radioactive wastes. We have engaged with UCL in early discussions on their proposals.

73 We have continued to monitor the latest expansion of the enrichment facilities on site which is progressing well. The construction phase of the new Chemical Services Laboratory Buildings is nearing completion. The recent safety performance of the site has raised no significant issues.

BNGSL - Capenhurst

74 The physical processing of the legacy materials is continuing to make steady progress as part of the site decommissioning work being undertaken by the licensee. We have recently permissioned the 'full operation' of part of the associated processing facilities, responding promptly to the licensee's request. This will expedite the decommissioning process and reduction in the site criticality hazard. We are still pressing the licensee to advance the timing of the conversion of some uranic materials into a safer form for long-term storage. Our planned inspection programme for the site has been reduced in proportion to the reducing site hazard.

Nuclear Research Sites

UKAEA General

75 UKAEA's safety performance over the last four months has been generally satisfactory, with the exception of Processing Cells in a building at Windscale where we have issued Improvement Notices following an incident (see below).

76 Recent inspections, principally at Dounreay, have revealed significant generic issues with Operating Rules in Modern Standards Safety Cases. A meeting was held with UKAEA to achieve a common understanding of the underlying issues, and to agree a way forward. We are satisfied with UKAEA's response to this issue and will progress it as part of normal regulatory business.

77 We carried out a team inspection of training and competency arrangements across UKAEA's four nuclear licensed sites. Overall, the arrangements were considered to be acceptable, with a number of good practices noted. We noted that UKAEA is in the process of implementing new arrangements for managing competence across all its sites. The inspection identified a number of areas for improvement that UKAEA are currently addressing.

Dounreay

78 In order to achieve a baseline programme where funding complies with NDA limits, UKAEA are proposing deferral of a small number of projects. We are discussing this issue with UKAEA as we wish UKAEA to comply with agreed project timescales. In particular, UKAEA are currently reviewing options for delivery of the project for the immobilisation of liquid intermediate

level waste resulting from the reprocessing of PFR fuel. We are continuing to discuss these with UKAEA and may have to consider enforcement action.

79 We observed the Dounreay annual demonstration emergency exercise and judged the exercise to be a satisfactory demonstration of UKAEA Dounreay's emergency arrangements. The key lesson to be learned relates to improvements to be made to command and control techniques at the Forward Control Point

80 As a result of personal contamination events in the Pulse Column Lab improvements were made such that UKAEA were able to restart operations. Following a period with no further incidence of personal contamination, a number of routine nose blow samples showed elevated levels of radioactivity. Operations were again stopped. UKAEA established that, in these cases, the cause was most likely to be associated with cross contamination in the analytical laboratories that analysed the nose blow samples rather than with actual intakes by the workers involved. Bioassay samples provided by the workers involved indicated no measurable intake of radioactive materials. As a consequence, we have agreed to the recommencement of operations in the facility.

81 Following concerns we raised over UKAEA's proposal to defer the PFR alkali metal residue removal project, UKAEA has developed a revised strategy for the project. The revised strategy operates the Water Vapour Nitrogen process at a lower concentration of steam/nitrogen, over a longer period. We will monitor the further development of this revised operating regime.

82 Discussions have continued on a number of technical issues on the Dounreay Fast Reactor (DFR) NaK Disposal Plant construction and commissioning safety case. These need to be resolved prior to our agreement to the commencement of inactive commissioning of the plant.

Harwell

83 Licence Instrument No 510 was signed on 19 August agreeing to the extended validity of the Harwell Package Movement Safety Cases.

Winfrith

84 The annual Level 1 demonstration emergency exercise was carried out on 6 July and we were content that the exercise was an adequate demonstration of Winfrith's emergency arrangements.

Windscale

85 We have completed our investigation into the INES 1 event that occurred on 11th April. Three flask liners had been shipped from Windscale Waste Processing Cells to the Magnox reprocessing plant, on the BNGSL site, with unusually high radiation levels. The main conclusion of the investigation is that there were significant lapses of control and supervision on

11th April, and there were significant failures to follow procedures, particularly for removal of the liners from the Windscale cave. Two Improvement Notices have been served: one on UKAEA as licensee, and one on Nexia Solutions as the tenant, requiring improvements in Risk Assessment, Control and Supervision, and Safe Systems of Work.

86 As a result of our assessment of the new Operational Safety Case for Windscale Processing Caves, we have notified UKAEA of significant issues in both engineering substantiation and safety case presentation. In addition we have required UKAEA to seek further advice from its Southern Nuclear Safety Committee.

ICRC Ascot

87 An inspection was made of the annual outage. Two Approvals have been granted: for amended terms of reference for the nuclear safety committee and for arrangements for urgent safety proposals.

GE Healthcare Ltd

88 In response to our request GEHL have submitted a Safety Management Prospectus. It provides a good explanation of how safety will be managed in the relationship between the licensee and GE, its new owner. The first sections of the LC36 Baseline have also been submitted. Approvals have been granted for new emergency plans for all four sites.

Defence Nuclear Sites

Nuclear Submarine Related Sites – General

89 The safety performance at Devonport (Devonport Royal Dockyard Ltd - DRDL), Barrow (BAE Systems Marine – BAESM), Rolls Royce Derby (Rolls Royce Marine Power Operations Ltd – RRMPOL), Clyde Naval Base, Rosyth Royal Dockyard Ltd (RRDL) and the Shore Test Facility at Dounreay continues to be satisfactory with a range of issues being followed up as part of routine regulatory business.

Barrow

90 We have continued to oversee the improvements in quality assurance., related to key safety components of the ASTUTE Class of submarines

Devonport

91 The delivery of the Staged Improvement Programme (SIP) continues to be a high regulatory priority at Devonport. We are monitoring the licensee's progress towards the delivery of a number of significant improvements to facilities this year and the current position is as follows:

- demolition of the Submarine Refit complex (SRC) office building, to remove the possible collapse hazard, has commenced and is programmed to be complete by early December 2005;
- the design work to strengthen the 5 Basin North Wall (seismic withstand) is frozen and site work will commence following the above demolition work and;
- the fabrication and installation of equipment to boronate S & T Class submarine reactor cores, to further reduce the possibility of criticality faults during fuel handling operations, is proceeding on site. The safeguard will be commissioned in early 2006 to support the planned HMS Triumph Long Overhaul Period with Refuel (LOP(R)).

92 The process for implementing further SIP improvements is currently being reworked by the MoD and DRDL. We are encouraging an early resolution of the issues to ensure the agreed facility improvements are available to support operational safety case requirements.

93 The second in class LOP(R) of HMS Victorious is being carried out in 9 Dock. We have completed a number of inspections, relating to the commissioning of the Primary Circuit Decontamination (PCD) facility, which will be used for the first time to clean the reactor primary circuit. This is to ensure worker radiation dose levels are properly controlled and reduced to ALARP. Our inspections, including the investigation of a number of PCD related incidents on site, identified shortfalls in the licensee's performance relating to the control and supervision of work. The licensee is addressing this issue.

94 The annual Devonport Licensed Site demonstration emergency exercise was held on 15th June 2005. A number of areas of sound performance were observed including the operation of the Devonport Accident Control Centre (DACC). However the management of casualty rescue was inappropriate as rescue times were excessive. We have requested to the Licensee to review its arrangements and redemonstrate relevant parts of the exercise.

AWE

95 In July 2005 the Ministry of Defence announced that funding of some £1.05bn over the next three years was to be allocated to AWE to ensure that the UK can continue to maintain its existing stockpile of nuclear warheads safely and efficiently. The Ministry noted over 80 per cent of the infrastructure at AWE pre-dates 1960 and it was becoming increasingly difficult and expensive to sustain the ageing facilities. These projects will produce a substantial regulatory workload and we are reviewing the implications for our future resource position.

96 On 26th May an incident occurred on the Aldermaston site when a container, which had been assumed to be empty, was opened. There was a small release of tritium. No member of the workforce or the public was harmed by the release. An internal company investigation found that the

container had been opened in an unsuitable location and that staff were not suitably qualified and experienced to perform the operation. It also identified that facility operating instructions were not followed and there was a loss of management control and supervision of this operation. Our investigation independently confirmed these findings. Given the circumstances of the event we issued an Improvement Notice on 7 July 2005. We consulted with colleagues in the Environment Agency to ensure a co-ordinated regulatory response was effected. EA has issued a separate enforcement notice.

Defence Sites – Regulatory Effectiveness and Efficiency

97 We have initialised a review of the regulation of MOD sites to look for improvements. The initial work has been based on an internal review of recent experience. This is presently being considered before proceeding to the next phase which will involve consulting with defence sector stakeholders on any proposed developments.

NSD ISSUES

Nuclear Research

NuSAC SCR Concerns

98 NuSAC's Sub-Committee on Research (SCR) has raised concerns with the HSC that commercial pressures are adversely affecting the value of the nuclear safety research programme. Moreover, the SCR considers that the research needs for decommissioning plant are not significantly less than for operating plant.

Problems with the British Energy Programme

99 In response to the problems in 2004/05 when the research programme suffered due to BE's financial problems, HSE has required that BE re-instate all the research projects which were stopped or slowed down and in addition has put in place tighter monitoring procedures. The recent information received from BE is encouraging. All the projects have been re-instated as agreed and the programme for this year is being commissioned to time and budget.

Effect of NDA on Future Research Programme

100 At the time of writing the NDA Research Board has yet to meet (first meeting planned for 29 September) so issues to do with generic safety research and research which may have a wider benefit across the UK are still to be resolved. However, there is a clear understanding established that BNG Sellafield and BNG Magnox Electric will commission long term research which will respond to needs identified by HSE. At this time it is unclear what effect an accelerated research programme will have on nuclear safety research or what effect the creation of a larger number of Site Licence Companies (SLC) will have on HSE's ability to coordinate effectively research outcomes.

Research Forum

101 In order to seek views on the future role of the HSC Coordinated Nuclear Safety Research Programme, HSE set up a forum with its key nuclear stakeholders. There was a very fruitful exchange of views which has helped to identify options for a way forward. HSE has used some of the thinking to draft a research policy paper, which will be considered at the SCR meeting on 27 September.

Organisation / Resources

102 The Health & Safety Executive agreed to increase NSD's resources for 2005/2006 to 179 inspectors. As of the 1st September 2005, NSD has 167 inspectors in post. Thus so far the resource shortfall has impacted primarily on the assessment work stream given that we have striven to give priority to site inspection work. However, pressures are now showing here as well.

103 The results of the recent recruitment campaign have been mixed. Of the 17 advertised disciplines one was filled internally from HSE and seven filled by external candidates (with starts dates during September/October). Another recruitment campaign is being developed, in parallel with a renewed on-going Web advertisement.

Project to Benchmark and Review the NII SAPs

104 The project is moving towards the end of the drafting stage. This includes initial stakeholder engagement via the NSD web page. This stage is due to finish by the end of November. The intent of having all sections of the new SAPs available as drafts on the web page by the end of October should be achieved. However, many draft sections were planned to be available earlier but have been delayed due to resource difficulties and longer-than-planned times for clearing them internally. This has resulted in the window for stakeholder comments having been compressed, despite the decision earlier in the year to extend the project by 4 months.

105 The SAPs Workshop on 22 November, organised by I.Mech.E at the Birchwood Conference Centre, marks an important project milestone at the end of this stage and will have the twin objectives of closing the first round of stakeholder engagement and bringing the project into wider public debate. Interest in it has been very strong and it should prove to be a very productive event. Several licensees, as major stakeholders, have engaged in the project, following the issue of draft sections on the NSD web page. They have expressed a keen interest in several key topics, which will form a focus for the workshop and are the subject of 2 or 3 half-day meetings between licensee and NSD specialists in advance of the Workshop. The areas of interest include safety management, numerical risk targets and decommissioning.

106 The timescales to produce a draft suitable for public consultation are very tight. The comments to be addressed in the post-November period

include, in addition to those from stakeholders via the web, those from an independent review by Vectra (using the authors that conducted the benchmarking study against IAEA standards) and those from the Naval Nuclear Regulatory Panel (NNRP) as part of the process of alignment. No major stumbling blocks to alignment have been identified to date and NNRP should be able to adopt a set of SAPs that will only depart from those of NII in minor detail. Timescales are now such that achieving alignment before issuing draft text onto the web has proved impossible to achieve.

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