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### MINUTES OF THE NUCLEAR SAFETY ADVISORY COMMITTEE (NUSAC) MAIN MEETING HELD ON THURSDAY, 23 FEBRUARY 2006 AT 0930 HOURS AT HSE OFFICES, ROSE COURT, LONDON

Chairman:	Mr Steve Vranich	
Members:	Mrs Sheila Ashford	
	Mr John Billard	
	Prof Robin Bloomfield	
	Mr Andrew Clarke	
	Mr Barry Cripwell	
	Dr Bryan Edmondson	
	Dr Paul Haigh	
	Mr Bill Heafield	
	Dr Rod McKenzie	
	Prof Neville Moray	
	Mr Steve Napier	
Prospective TUC nominated member:	Mr John Rowse	
HSC Commissioner:	Ms Margaret Burns	
Deputy Chief Inspector of Nuclear Installations	Dr Len Creswell	HSE
Observers:	Mr George Sallit	AWE
	Mr Andrew Clark	DML
	Dr Nigel Hollway	UKAEA
	Mr Peter Webster	British Energy
	Mrs Mary Morrey	HPA
	Cmdre Andrew McFarlane	MoD
	Mr R Smith	EA
	Mr Laurence Williams	NDA
	Mr Alan Brandwood	BNG
	Mr David Mason	BNG
Presenters:	Mr Jim MacHardy	GE Healthcare
	Mr Colin Waker	NII
Presenter supporter:	Mr Steve Walker	BNG
Secretariat:	Mr Colin Potter	Secretary
	Mrs Joyce Boorman	Secretariat
	Mrs Alma Edwards	Secretariat

HSE	-	Health and Safety Executive
EA	-	Environment Agency
NII	-	Nuclear Installations Inspectorate
AWE	-	Atomic Weapons Establishment
UKAEA	-	United Kingdom Atomic Energy Authority
HPA	-	Health Protection Agency
MoD	-	Ministry of Defence
NDA	-	Nuclear Decommissioning Authority
BNG	-	British Nuclear Group

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### **Item 1: Welcome, Introduction and Apologies**

1.1 Apologies were received from NuSAC Members Susan Parry, Jim Whiston, Wynne Davies, Sue Cox, David Owens and John Knott.

1.2 Apologies were received from Mike Weightman (CI, NII) who was represented by Dr Len Creswell one of NII's Deputy Chief Inspectors, Louise Robson (DTI), Bobby Ronnie (Scottish Executive), Joe McHugh (EA), who was represented by Robert 'Bob' Smith, John Crofts (UKAEA), who was represented by Nigel Holloway and Andrew Jupp (AWE) who was represented by George Sallit.

1.3 Steve Vranich introduced and welcomed John Rowse (TGWU) who has been nominated to replace Susan Parry.

1.4 Steve Vranich introduced and welcomed Margaret Burns, one of HSC's Commissioners, who attended the meeting to gain a better understanding of how NuSAC conducts its business. He said that NuSAC welcomed a more active relationship with the Commission.

1.5 Steve Vranich welcomed Steve Walker, BNG, who would support David Mason with the Sellafield Highly and Medium Active Liquors Management Update paper (agenda item 7), Jim MacHardy, GE Healthcare, who would present the paper 'Acquisition of Amersham plc (now GE Healthcare Ltd) by General Electric (agenda item 8) and Colin Waker, NII, who would present the paper 'Review of NII's SAPs – A Status Report' (agenda item 10).

1.6 Steve Vranich informed the meeting that Andrew Jupp had replaced Angela Jenkins as the AWE observer. Steve formally recorded thanks to Angela for her contribution to NuSAC.

1.7 As it was Andrew Clark's (DML) last meeting, as he retires at the end of April, Steve Vranich thanked him formally for his role as Observer and his contribution to the work of NuSAC.

1.8 Steve Vranich congratulated Barry Cripwell on his appointment to the International Federation of Free Trade Unions as a radiation protection expert. The Federation has 125 million members in 240 trade unions in 160 countries. The Committee congratulated Barry on his appointment.

1.9 The Committee also congratulated Alan Brandwood on his appointment as Director of Health and Safety, British Nuclear Group.

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### **Item 2: Minutes of the meeting held on 13 October 2005**

2.1 Following the amendment to Action 9/3/2005 to read 'BNGSL to report to a future meeting on the maintenance of corporate memory at Sellafield', the minutes were accepted as a true record and approved.

### **Item 3: Actions arising**

3.1 Actions 7/3/2005, 8/3/2005, 10/3/2005, 11/3/2005, 13/3/2005, 18/3/2005, 15/1/2005 and 82/2/17 were cleared.

3.2 For action 7/3/2005 Steve Vranich reported that NuSAC hoped to have a closer working collaboration with the DTI following the meeting held on 2 November 2005.

3.3 For Action 8/3/2005 David Mason reported that the upturn in Strontium discharges at Sellafield had resulted from changes in the operating regime. Actions had been taken at the plant and the discharge levels were now back to normal. Action 9/3/2005 applied to the maintenance of corporate memory at Sellafield and would transfer to David Mason.

3.4 Although action 10/3/2005 was cleared, NuSAC requested a report back after the joint HSE/NDA paper on a co-ordinated approach to PCM was presented at the RWPG meeting scheduled for May 2006.

3.5 **Action 1/1/2006: NuSAC Secretary to arrange report back of the joint HSE/NDA paper on a co-ordinated approach to PCM presented to the RWPG meeting in May 2006.**

3.6 Although Jim Whiston was unable to attend the NDA meeting on safety metrics on 28 November 2005, Laurence Williams agreed to let NuSAC have a copy of the revised metrics as soon as they were available.

**Action 2/1/2006: NDA to let NuSAC have a copy of the revised health, safety and environmental performance metrics.**

3.7 For action 15/1/2005 NuSAC was pleased to have received the DTI response to its additional question concerning the effects of competition on contractor safety performance, but had not yet had the opportunity to consider it. Once it had, NuSAC would consider whether to respond to the DTI.

**Action 3/1/2006: NuSAC to consider a response to the DTI paper on United States contractor safety performance.**

3.8 Actions 9/3/2005, 12/3/2005, 14/3/2005 15/3/2005, 16/3/2005, 17/3/2005, 9/2/2005, 10/2/2005, 11/2/2005, 15/2/2005 and 82/2/15 are outstanding.

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- 3.9 Action 9/3/2005 has been amended to read 'BNGSL to report to a future meeting on the maintenance of corporate memory at Sellafield'.
- 3.10 Action 12/3/2005 (update paper on the Windscale Piles Project) to be incorporated into RG2's Work Plan and then action cleared.
- 3.11 Action 15/3/2005 (copy of NDA's Health, Security and Environment Policy document) should be sent to members shortly.
- 3.12 For Action 16/3/2005 NDA will make the presentation on maintaining the nuclear skills base to the July 2006 meeting.
- 3.13 For Action 9/2/2005 (update on the Thorp incident) David Mason reported that BNGSL was keen to update NuSAC at the appropriate time.
- 3.14 For Action 10/2/2005 (clarification of terminology) Laurence Williams asked for clarification of what NuSAC wanted. It was agreed that the NDA paper would include recent work that had been undertaken on the 'controlling mind' issue.

### **Item 4: Update on Recruitment of New Members**

4.1 Steve Vranich reported that the recruitment exercise had been very successful with over 100 enquiries and 54 formal applications. Interviews had been completed, but the applicants had yet to be notified. It was hoped that they would be appointed in time for most of them to attend the meeting in July 2006.

4.2 Steve Vranich formally thanked the Members who had been part of the recruitment exercise for the additional work and to the OCPA Independent Assessor for his guidance, input and support.

### **Item 5: Update on HSE's policy (Paper NuSAC(2005)P13) and Operational Issues (Paper NuSAC(2005)P14) and wider issues**

5.1 Colin Potter presented the paper 'Policy Update briefing for NuSAC meeting for February 2006 (NuSAC(2006)P1).

5.2 Colin Potter would share HSE's submission to the Trade and Industry Select Committee's inquiry into the NDA and the UKAEA.

**Action 4/1/2006: NuSAC Secretary to provide NuSAC Members with a copy of the HSE written submission to the Trade and Industry Select Committee inquiry into the NDA and UKAEA.**

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5.4 On the issue of insolvency of nuclear licensees, Andrew Clarke asked whether the question about the Administrator only dealing with the financial situation and not safety, which meant that NII could not regulate, had been resolved. Colin Potter said that discussions with the DTI were ongoing and that he would report at the next meeting.

**Action 5/1/2006: NuSAC Secretary to report at the July 2006 meeting about insolvency administrator's remit to safety and impact on NII's regulatory role.**

5.5 In response to Laurence Williams' enquiry about the omission in the report of the discussions on LC35 financial derecognition issues, Colin Potter reported that this was very much a 'live' issue being discussed with the DTI and lawyers and therefore he was not able to say much at this stage.

5.6 Laurence Williams commented that it was odd how safety had got linked with the very complicated financial rules.

5.7 It was agreed following Paul Haigh's enquiry that NuSAC would respond to the Defra LLW Policy CD as there would be likely to be safety implications. Paul Haigh volunteered to take the NuSAC lead.

**Action 6/1/2006: Paul Haigh to lead for NuSAC's response to the Defra CD on LLW Policy**

5.9 Laurence Williams reported that he had also been called to give oral briefing to the House of Lords EU scrutiny sub-committee, which was considering the so-called EU 'Nuclear Package'.

5.10 Nigel Holloway was disappointed that the HSE assessment guidance on nuclear site delicensing had been put back yet again as delicensing was a very important part of strategy. He would like to see a definite publication date. Len Creswell responded that NII had limited resources and had to prioritise its work.

5.11 Len Creswell presented the paper 'Report from NII for the meeting to be held on 22 and 23 February 2006' (NuSAC (2006)P2).

5.12 Dr Creswell reported that a new section to address licensing, restructuring and management of change had been created in NSD to meet the changes in the industry brought about by the advent of the NDA.

5.13 He reported that the SoS for Energy had asked HSE for advice on risk from various forms of energy as part of the government's Energy Review. As part of this work NSD would be looking at pre-licensing of new build, and a workshop was taking place on 3 March 2006. He emphasised that HSE had not been asked to review or sign-off any particular design and that the workshop was to look at NSD's regulatory processes.

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5.14 Bob Smith confirmed that the EA had also been asked by the Government to provide advice to its Energy Review, but in more general terms. The EA would be working closely with HSE.

5.15 Steve Vranich reported that NuSAC would be represented at the workshop on 3 March and stressed that NuSAC was 'agnostic' on the Energy Review, but would respond to the CD.

5.16 Margaret Burns stated that HSE had been asked for advice, not HSC. HSE had been asked for expert advice on risks, but the list was not exhaustive. She confirmed that NuSAC must be neutral and not be drawn into the bigger political picture, but it would be helpful if it could think about the whole range of risks. She thought that this was probably the first step to a much longer process.

5.17 Dr Creswell informed Members that the IAEA had been invited to send an International Regulatory Review Team to examine NSD's regulatory processes – with particular emphasis on the ability to respond to safety assessments of 'new build' applications – such as might form part of a pre-licensing request. The IAEA has responded very positively to this request, which was on a very short timescale to allow the results of the mission to inform HSE's advice to Government on the Energy Review. In response to Rod McKenzie's question, Len Creswell confirmed that he would be happy to go through the IAEA IRRT report with NuSAC once the review had been completed.

### **5.18 Action 7/1/2006: NSD to review with NuSAC the report of the IAEA's IRRT when complete.**

5.19 Len Creswell reported that the NII had completed its investigation report for the Thorp incident and a prosecution report had been sent to HSE's Solicitor to review.

5.20 Laurence Williams commented that the re-start of Thorp was an issue for the NDA. The NDA must be satisfied that it could be repaired and operated economically as well as complying with all the recommendations from the NII investigation and satisfy all the BNG internal board recommendations. A final decision to restart Thorp would depend on NII's agreement.

5.21 For the Dounreay cementation plant incident, Len Creswell reported that NII had been in dialogue with Dounreay management on progress and NII had issued 2 Improvement Notices.

5.22 Steve Napier asked for comment on the impending purchase of Westinghouse/Springfields by Toshiba, and the possible sale of BNG. The uncertainty and distraction this causes within these organisations, not least, for instance over the company pension schemes, can have detrimental effects on safety. Len Creswell said that he could make no comment on financial issues, but assured the meeting that NII was taking a close interest in the possible effects on the continued safe management of the Springfields/BNG sites.

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5.23 Steve Napier said that NuSAC was scheduled to visit Springfields in March and would be interested in the latest developments.

5.24 Neville Moray commented that he was concerned about the number of NII staff being taken away from traditional inspection duties in order to deal with reorganisations and relicensing. Len Creswell responded that NSD's priorities were always on regulating safety. The recent HSE pay settlement and the end of the work to rule dispute provided a better footing for the future. There is also the prospect of a pay package comparison study for new recruits as NII is still having difficulties recruiting up to its cadre. There may be a need for a further increase in the cadre dependent on the Government's conclusions following the Energy Review.

5.25 Bryan Edmondson suggested that NuSAC's RG1 and RG2 should be looking more closely at management changes especially at Sellafield. David Mason said that BNGSL would be pleased to address culture, improvement and practice when NuSAC RG1 visits Sellafield in April 2006.

### **Item 6: Safety Performance Overview of the Major UK Nuclear Licensees – Annual Update (NuSAC(2006)P3)**

6.1 Andrew Clarke presented the paper. He thanked the licensees for all their efforts in providing him with the raw data. Key points were: (i) continuing low doses to employees and contractors; (ii) defence contractors showing improving trends in industrial safety. Broadly speaking, the analysis of the results year on year indicated that organisational change adversely affects industrial safety performance. The issue would therefore seem to be: how can the focus on safety be maintained throughout periods of major organisational change.

6.2 Andrew Clarke asked whether the Committee were content for the Review Group to continue to prepare the annual report. He believed that the exercise was worthwhile, provided it did not duplicate the work of other groups.

6.3 The Committee agreed to the report's recommendations and concluded that, for now, the Review Group should continue to prepare the report annually. Laurence Williams said that he would make safety performance data from the NDA sites available for use in compiling future annual reports.

### **Item 7: Highly and Medium Active Liquors Management Summary Update for NuSAC (NuSAC(2006)P7)**

7.1 Steve Walker, (BNG) presented the paper. He said that there was no doubt that there had been deterioration in safety performance on the site a year or so ago. The site had gone through dramatic organisational changes in preparation for the advent of the NDA. However, there had been marked improvements in safety performance during the last year.

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7.2 Key points: MAC processing had been very successful – now down to very low levels, and presenting no safety problem. The treatment of historic floc removals had gone well. The Waste Vitrification Plant (WVP) performance had improved steadily over the year and best annual throughput had been achieved. HAL stocks were at their lowest level since NII issued the Specification. The evaporator capacity is under review and needs careful consideration against the anticipated lifetime demands of the reprocessing plant. Feasibility studies for construction of a further evaporator are being undertaken.

7.3 Bill Heafield, Review Group 2 said that he was pleased with the clarity of the paper. He endorsed the good progress reported on MAC, and the treatment of historic floc is encouraging. The absence of liquors coming from Thorp reduces the demand on the plant, but makes it more difficult to achieve the right vitrification product.

7.4 Regarding the HA evaporator, Bill Heafield noted that there is a question about whether the plant can continue to meet the demands of the Magnox and Thorp programmes – especially if they extend beyond the current timescales. A decision on a new plant may need to be taken soon. On legacy ponds and silos, progress on retrievals was disappointing. These plants are currently 40 years old and BNG will need to ensure their continued integrity for many more years to come. Laurence Williams confirmed that that the NDA was giving urgent consideration to the case for a new evaporator.

7.5 The Chairman thanked BNG for a very informative paper and said that NuSAC would continue to monitor events at Sellafield.

### **Item 8: Acquisition of Amersham plc (now GE Healthcare Ltd) by General Electric (NuSAC(2006)P8)**

8.1 Jim MacHardy presented his paper. He said that G E Healthcare acquired Amersham in April 2004. The paper focuses on lessons learnt during and following the acquisition. Planning for the change of ownership had been inadequate – with a result that the NII expressed major concerns about the ability of the licensee to demonstrate that they were in effective control of the safety of the site operations. Following a top-level meeting in September 2004, and advice from the licensee's own nuclear safety committee, GE recognised the need to modify its orthodox and proven global operating model to account for the specific requirements of a UK licensee. Key features of the deterioration were:

- Decisions were not communicated well, resulting in poor internal and external communications
- Lack of planning – reactive rather than proactive
- Inexperience within GE regarding the UK regulatory framework

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- a degree of complacency – the licensee "resting on its laurels".

8.2 The key recommendation is that for any acquisition of a licence there should be early and frequent communication with the acquiring company.

8.3 Andrew Clarke said that were a number of difficulties with the acquisition and enquired of the NII and NDA representatives how they felt these could have been overcome. Also, during RG1's visit, the Group noted that managers were under considerable pressure. Members raised questions on regulation issues:

- Did the regulator come in at the right time to make the acquisition as straightforward as possible?
- How can 'cultural' differences between foreign owners and the UK regulatory framework be resolved?

8.4 Les Creswell said that G E Healthcare's senior managers clearly needed to have equipped themselves with a better understanding of British law in order to ensure they had the necessary 'intelligent customer' capability. He said the report was an excellent and timely case study.

8.5 Members complimented G E Healthcare on an excellent case study of a licensee acquisition process.

### **Item 9: Ensuring Magnox Electric Retains Sufficient SQEP Resource to the End of Generation (NuSAC(2006)P6)**

9.1 Alan Brandwood (BNG) presented the paper that described the measures being taken by Magnox Electric to ensure that the levels of suitably qualified and experienced people (SQEP) are maintained within the business until end of generation. A key part of this was the Lifetime Partnership Agreement (LPA), which was negotiated with staff and unions. This has been coupled with a protocol signed with British Energy (the BE Protocol), which opens up opportunities for staff from closing ME sites to move across to BE. The LPA and BEP together had been helpful in ensuring the retention of staff – turnover had fallen to 1.7% per annum, compared with around 10% national average.

9.2 Andrew Clarke thanked Mr Brandwood for his excellent paper and presentation. RG1 had had some very useful discussions with ME during the discussions that led to the paper. There are many good learning points for wider dissemination. It was noted that the fact that all the ME stations had definite dates for closure was crucial to allow for forward planning. ME had brought in some genuinely innovative solutions to the retention of key technical staff (for instance through the contract with SERCO).

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9.3 Mr Brandwood was asked whether it would be feasible to split already small teams into viable entities when the NDA bundled the Magnox sites for competition. Mr Brandwood commented that at present the plan is for the ME sites to be split 3 ways – and agreed that a robust mechanism will need to be set up to ensure sharing of expert knowledge. All the Intelligent Customer (IC) requirements had been mapped out for the proposed three-way split – but this work had been frozen pending a ministerial decision on the NDA competition strategy. Maintaining IC capability for generating sites would be harder than for decommissioning ones.

9.4 Margaret Burns commented that this was a UK wide issue and the Commission would look to NuSAC for a wider view. Technical skills shortages beset other industries as well. Steve Vbranch noted that, in this context, NuSAC would be visiting HMS Sultan in November to see how the Royal Navy undertakes its nuclear specialist training of new graduates. Laurence Williams noted that the Energy Act places an obligation on the NDA to encourage the acquisition of technical skills for its decommissioning and clean-up activities. John Rowse thought that there had been a problem attracting people to what was seen as a “dying industry”. The advent of the NDA has been a good thing and may help to encourage more interest in careers in this area. A ‘positive’ result from the Government’s energy review may also act to kick start interest in the nuclear power industry too.

9.5 Members thanked Mr Brandwood (and the author, Mandy Walker) for a very useful presentation.

### **Item 10: Review of NII’s SAPs – A Status Report (NuSAC(2006)P5)**

10.1 Colin Waker (NSD) presented the paper, which updated the Committee on progress with the review of NII’s Safety Assessment Principles (SAPs). A previous presentation had been made to the committee in July 2004, early on in the SAPs review, although the Committee has been apprised of progress since then via verbal reports from the NII Chief Inspector.

10.2 Dr Waker explained that the project is now in its final editorial phase, in preparation for publishing a text for public consultation on 31 March 2006. A major part of the work has been to benchmark the 1992 SAPs and supporting guidance against the IAEA Requirements and Safety Guides. The results of that benchmarking have been used in redrafting the SAPs.

10.3 Dr Waker emphasised that the SAPs will not constitute HSE ‘guidance’ for the industry – they are officially for NII’s assessors only – although, of course, industry may take note of them in preparing safety cases etc. In the longer term, the Chief Inspector would like HSE to develop a set of “regulatory principles” which would cover all our activities – not just assessment. The SAPs project will have taken up 5.5 staff years and £0.3 million contract support by the start of the consultation in March.

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10.4 The publication of the SAPs for consultation would be publicised at a series of regional meetings organised under the auspices of the British Nuclear Energy Society (BNES) and the Institute of Mechanical Engineers.

10.5 Members commented on the thorough and detailed approach that has been taken. Asked about 'tracability' of the various changes, Dr Waker commented that at present this is all given in footnotes in the consultation document. In due course there will be a table showing the old and new SAPs and indicating what has changed and why. Andrew McFarlane commented that the defence nuclear safety regulators were working closely with the NII to influence the development of the new NII SAPs so that they are more readily applicable to defence nuclear plant; they intend subsequently to replace the existing 'Nuclear Propulsion Safety Principles and Safety Criteria' with 'Nuclear Propulsion Safety Assessment Principles' which will have common principles, but modified and more relevant supporting guidance.

### **Item 11: NuSAC Representation at Events and Responses to Consultations**

11.1 Western European Nuclear Regulations Association (WENRA): Andrew Clarke represented NuSAC at the Seminar on Common Approaches to Nuclear Safety and Regulation in Europe, on 9 February 2006. The aim of the seminar was to agree a common basis and compliance. There were about 200 representatives from 24 different countries. Representation from the United Kingdom was disappointing - the only other UK representatives were from the Nuclear Installations Inspectorate. Andrew Clarke asked that thanks be conveyed to Paul Woodhouse (NII) for his sterling work on getting agreement on common standards.

11.2 Royal Academy of Engineering: Economics and Morality of Safety Seminar, held on 16 February 2006: Paul Haigh represented NuSAC at this event. There were presentations by oil, rail, nuclear, aviation, dealing with safety awareness and avoidance of major incidents. Although the meeting was interesting, there were no key messages to pass on to NuSAC

### **Item 12: Matters that the Sub-Committee on Research and Review Groups may wish to raise with Licensees or Observers**

12.1 SCR: Neville Moray informed NuSAC that he had accepted an invitation from the Nuclear Decommissioning Authority (NDA) for the Chairman of the SCR to be an external member of the NDA Research Board and would report back to the Committee in a year's time.

### **Item 13: Any Other Business**

13.1 Commissioner Margaret Burns commented that she had found the meeting very interesting, and noted that many of the issues (eg. management of organisational change, skills retention) cut across other industries: there was a surprising amount of

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common ground. On behalf of the HSC, Ms Burns thanked the Committee for all the hard work that it does. NuSAC has a crucial role and the Commission does listen to and depend on its advice.

13.2 Steve Vbranch noted that Mrs Joyce Boorman was retiring and that this would be her last meeting as head of the NuSAC secretariat. Members joined Mr Vbranch in thanking Joyce for all her hard work, and friendly and efficient help over the years, and wished her well for the future.

### **Item 14: Date of next meeting**

14.1 The next Main meeting will be held on Thursday 6 July 2006 in Rose Court, London.