

**MINUTES OF THE NUCLEAR SAFETY ADVISORY COMMITTEE  
(NUSAC) MAIN MEETING  
HELD ON THURSDAY 4 MARCH 2004 AT 1030 HOURS  
IN ROSE COURT, LONDON**

Those attending:

Acting Chair:	Prof John Knott	
Members:	Mr Andrew Clarke	
	Dr Bryan Edmondson	
	Mr Barry Cripwell	
	Dr Wynne Davies	
	Dr Paul Haigh	
	Prof Tony Goddard	
	Prof Bev Littlewood	
	Prof Neville Moray	
	Dr Rod McKenzie	
	Mr Steve Napier	
	Prof David Owens	
	Prof Susan Parry	
CI NII	Mr Laurence Williams	
Observers:	Mrs Mary Morrey	NRPB
	Mr Richard Mayson	BNFL
	Mr Alan Brandwood	AWE
	Mr Jeremy Western	BE
	Mr David Mason	BNFL Magnox
	Dr John Crofts	UKAEA
	Mr Andrew Clark	Royal Dockyard
	Dr Joe McHugh	EA
	Mr Charles Bridge	DTI
	Cdre Andrew McFarlane	MoD
Presenter:	Mr Murdo Allan	BE
Secretariat:	Dr Andy Hall	Secretary
	Mr Michael Redhead	Secretariat (Temp)
	Mrs Alma Edwards	Secretariat

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<b><u>Item 1: Welcome, introduction and apologies</u></b>	
1.1	Prof Knott welcomed John Billard, TUC Nominee to NuSAC, who was to replace Gordon Bellard. Commodore Andrew McFarlane, MoD, who replaced Commodore Peter Hurford. Mr Charles Bridge, DTI, who replaced Patrick Robinson. Murdo Allan, British Energy would be presenting Item 7 – 12-Hour Shift Working arrangements and Hinkley Point.
1.2	Prof Knott introduced Andy Hall to the Committee. Andy Hall was replacing Kevin Allars as Secretary, and during the intervening period, Colin Potter as Temporary Secretary.
1.3	Apologies were received from Jim Whiston, Bill Heafield, Sue Cox, Sheila Ashford, Keith Duncan, Tony Goddard and Joyce Boorman.
1.4	Prof Knott informed the Committee of the resignation of Keith Duncan and Tony Goddard and formally thanked them for their contributions during their membership of NuSAC. He also mentioned that in the near future there would be “Nolan casualties” i.e. long serving NuSAC members who are due to be replaced on the Committee – Bev Littlewood, Susan Parry and himself.
1.5	Prof Knott reported that no appointment had been made for the NuSAC Chair following interviews. The post may now have to be readvertised.
1.6	Prof Knott was unable to attend the 8 July 2004 meeting and said that Prof Neville Moray would act as Chair.
<b><u>Item 2: Minutes of the Main meeting held on 17 October 2003</u></b>	
2.1	The minutes were taken as a true record.
<b><u>Item 3: Matters arising from ‘Main’ meeting held on 17 October 2003</u></b>	
3.1	Action 81/3/10 (duplicate action from the Members Only meeting held on 15 October 2003): This item is outstanding. This action has to go before the Sub Committee on Research on 2 April before coming to the Main meeting. Carried forward to July 2004 meeting.
3.2	Action 81/3/11: This Action – Papers from BE and NII on ‘Towards Operational Excellence’ – is still on schedule for the July 2004 Main meeting.
3.3	81/3/12: ‘NII to report on the ‘Terms of Reference for the SAPs Review Study’. This action is cleared.
3.4	81/3/13: ‘NII to send leaflet on extant IAEA Standards to NuSAC members’. This action is cleared

3.5	Action 80/2/8: This Action is cleared.
3.6	Action 80/2/9: This Action is cleared. The Stakeholders meeting had overtaken it. However, there is an action on NII to present a paper on NII strategy and research at the July meeting. ACTION on Laurence Williams.
3.7	80/2/10: This action is cleared.
3.8	78/3/19: This item is outstanding
<b><u>Item 4: NII-related Business</u></b>	
4.1	NDA/LMU: Laurence Williams said that the challenges facing NII were the impact of the NDA on: <ul style="list-style-type: none"> <li>• Restructuring of BNFL</li> <li>• Relicensing BNFL's Magnox sites to come under the ownership of Magnox Electric</li> <li>• Management of sites, including the requirement that sufficient competence will reside in each part of the restructured company. Each part will be an intelligent customer.</li> </ul> The Inspectorate is engaged in continuing discussions with BNFL.
4.2	Laurence Williams said that the system of control and regulation was likely to involve NII in much work. He said that the project was large and of major importance. The end date for the project is 1 April 2005.
4.3	<b>ACTION 82/1/25: Laurence Williams to explain the project in more detail at the July 2004 meeting. Also to give a presentation on how NII regulates so as to gain NuSAC's general support for NII's work.</b>
4.4	While decommissioning and the impact of the NDA is only a part of what NII does it is likely to have a major impact on NII's regulatory resources. NII continues to regulate the safety of the operational sites. Laurence Williams said that there were major additional challenges over the next 12 months. Of major importance was the restructuring of British Energy and the management of the day-to-day operations of the nuclear industry and other generic issues. The requirements of international conventions and standards also played a major part in NII's work.
4.5	NSD Stakeholder Consultation – Peter Storey had presented a paper to the Members' Only meeting on 3 March 2004. Prof Knott said it was important the report emphasised NII's main regulatory role. He said that the report contained too much jargon.
4.6	Laurence Williams said that jargon would be stripped from the report. NII had a good understanding of working with stakeholders.
4.7	Rod McKenzie said that it was a struggle to get information on the NDA restructuring and changes to form a judgment on its impact on safety.
4.8	David Mason, said that he was happy to file a report on safety compliance to Laurence Williams.
4.9	<b>ACTION 82/1/26: British Energy (BE) to prepare a report on</b>

	<b>how nuclear safety is maintained, in particular with the proposed closure of Peel Park for the July 2004 meeting.</b>
4.10	Wynne Davies said that RG3 was to work with NII on the review. He also asked for UKAEA issues to be covered.
4.11	On the restructuring of BNFL, Laurence Williams made it clear that LC36 was being used to regulate any necessary changes. In response to comments from John Knott, Laurence Williams said that aspects of BNFL's reorganisation were commercially confidential; they involve BNFL, DTI and LMU. John Knott said that NuSAC feels that it does not receive enough information and felt it was good to receive papers from licensees. Laurence Williams agreed to update the Committee on the change project plan at the next meeting. On NII's future workload and resources, Laurence Williams agreed to give a paper to the Committee on the organisation of NII and why it is organised in that way, together with how it operates. The Committee agreed that this would help it to understand how the Inspectorate intends to tackle the issues surrounding the Energy Bill whilst continuing to deal with the remainder of its regulatory activity.
4.12	David Mason asked about NII resources deployed on decommissioning.
<b>4.13</b>	<b>ACTION 82/1/27: Laurence Williams to provide information on resources for decommissioning.</b>
4.14	John Knott challenged a perception that seems to exist among some licensees that less effort was required for decommissioning. Laurence Williams said that the 20-year Forward Look identified the challenges. For example, at Sellafield there was much work involved - retrieval, packaging and storage - all had to be done safely. Laurence Williams said that NII would determine the priorities in conjunction with EA, SEPA and OCNS. John Knott said that it was not clear how the NDA would see its priorities or set its programme of work.
4.15	Laurence Williams said that NII continued to use the European Foundation for Quality Management as a means of measuring NII's management performance. This provides for an external review of NII processes. NII's performance had steadily improved from a score of around 200 in 1998 to 400-450 in 2003. NII had been awarded a 'Marque of Achievement' for its progress and the aim was now to develop NII to be among the best companies in Britain.
4.16	John Knott congratulated NII on the work already done. In other areas, Laurence Williams said that licence conditions had been reviewed and amendments to existing conditions were proposed. There would be a high level meeting in June with Chief Executives of licensees and senior personnel in Government Departments to discuss nuclear safety regulation in the 21 <sup>st</sup> century and the proposed licence condition changes would be on the agenda.
4.17	Alan Brandwood said that it was important to share information; much information had been exchanged between MoD and its contractors to the advantage of all.

**Item 5: Matters that the Sub Committee on Research and Review Groups may wish to raise with licensees or observers**

5.1	<u>SCR:</u> Prof Knott spoke to this item. He said that the next meeting of the Sub Committee on Research would take place on 2 April. He reported that there was no generic research into new nuclear build, making the point that, the AP 600 and AP 1000 Westinghouse Technology reactors were available and proven. There was a coordinated research programme with Magnox and British Energy over 12-18 months.
5.2	Laurence Williams said that NII would be meeting with licensees on 2 April 2004 to see what was needed in the area of research; this was to underpin regulatory effort.
5.3	Prof. Knott welcomed the forthcoming meeting with licensees and said the Committee would need to be in a position to advise HSC, early in 2005, on the nature of research needed. He saw the work of the proposed Graphite Technical Committee as particularly important, especially in the area of graphite damage. There would be an intensive programme, which would mean meeting monthly or bi-monthly.
5.4	Project Dalton - working with the University of Manchester and BNFL – where research members and educational members doing research on radiation issues. It is anticipated that the university’s involvement would help to create new opportunities on nuclear and radiation issues.
5.5	<u>RG1:</u> Andrew Clarke reported that members of RG1 visited BE, Hinkley on 14 January 2004. He thanked Jeremy Western and Murdo Allan for sharing of information openly and frankly. He said it was a day well-spent.
5.6	The visit focused on the change to 12-hour shift working although this included introducing the Review Group members to how work is now managed on the station under new "Work Management" processes supported by the international Passport Version 9 software. Andrew Clarke commented on the use of computer systems in work management systems at nuclear power stations. RG1 was concerned about the use of programmes, which may be used in the future, that could be replacing Operator common sense in the decision making process. Laurence Williams was able to offer the Committee some comfort inasmuch that NII is aware that “intelligent” systems are developing and it’s reviewing how they are applied, where they are applied and how the operatives interface with them. Naturally, NII would wish to be assured that no safety case would be compromised by their use.
5.7	Andrew Clarke said that the feedback from Jim Whiston re the trial use of a telephone conference with BE and Magnox to update RG1 on Operational Issues was that it was successful. Jeremy Western agreed that it would be appropriate to have a further trial before the next meeting.
5.8	<u>RG2:</u> Paul Haigh asked about the Tetraphenylphosphonium Bromide

	(TPP) trials. Richard Mayson said that the trials went well and offered to send Paul Haigh a note outside the meeting. Joe McHugh said EA, BNFL, NII and, latterly, NIREX had worked together well. The initial results of the trials were encouraging. Laurence Williams sounded a warning that it was important to assess the performance of the final product and to monitor for any adverse effects it may have on the hardware. To date there was no apparent effect on other activities.
<b>5.9</b>	<b>ACTION 82/1/28 : Richard Mayson to prepare a paper on the TPP trials for NuSAC.</b>
5.10	<u>RG 3</u> : Wynne Davies spoke on the title of the Group. It was agreed that “Future” should be deleted from the title. The title of RG 3 would be “NDA and Decommissioning Policy”.
5.11	<u>RG 4</u> : Barry Cripwell said that there was much going on in the emergency field. For example, with regard to civil nuclear emergencies for exercises, Lancashire Constabulary was no longer prepared to instruct its officers to enter potentially contaminated areas to warn and inform the public. He said that RG4 would take a more active role. John Knott mentioned the “comfort factor” inasmuch that everyone involved in nuclear emergency planning was accustomed to a police officer in the leading role because everything focussed on that person. He said that the “Duty of Care” on chief constables imposed by the HSW Act had compromised emergency planning arrangements because the police forces had to consider their own personnel as much as public safety. Chief Police Officers needed to comply with the HSW Act. The situation presented difficulties. John Knott asked Laurence Williams how he thought NuSAC should deal with this matter.
5.12	Rod McKenzie mentioned the NRPB advice on intervention and risk analysis. Mary Morrey said that it was an important issue, which needed uniformity and national standards.
5.13	John Knott suggested that the Committee might write to DTI’s Nuclear Emergency Planning Liaison Committee (NEPLG), to encourage it to hasten the institution of a nationally agreed procedure. Laurence Williams said that he and the NII emergency planning team were in discussion with DTI and members of NEPLG. He suggested that after the initial outcome of these discussions, probably at end March, he should write to NuSAC, informing it of the current position.
<b>5.14</b>	<b>ACTION 82/1/29: Laurence Williams to inform NuSAC of the position following discussions with DTI and NELPG.</b>
5.15	<u>RG5</u> : Steve Napier said that the views of NuSAC members were sent to Alan Brandwood following NuSAC’s visit to the Atomic Weapons Establishment (AWE) in October 2003. He thanked Alan Brandwood for the speed of response. On the visit to Devonport in November, Steve Napier said that Joyce Boorman, Secretariat would be visiting Devonport on 24/25 March to begin the process of putting a potential programme together.
5.16	Steve Napier welcomed Commodore McFarlane to the Committee. He said that the issue of combining visits with DNSC was outstanding

	as the Secretary of DNSC would be changing yet again.
5.17	<b>ACTION 82/1/30: Commodore McFarlane to reinforce the need for appropriate NuSAC/DNSC collaboration with the secretary of DNSC.</b>
<b><u>Item 6: Safety Performance Overview of the Major UK Licensees – Annual Update 2002/2003 (NuSAC)</u></b>	
6.1	Andrew Clarke, Review Group 1, presented the paper. He thanked the licensees for providing timely, error free data. He has also consulted the licensees Annual Reports when they were on the respective websites. There were no significant trends apparent in this latest data. However, several of the civil licensees had recognised that more needed to be done to maintain a downward trend and they had programmes in place.
6.2	Jeremy Western observed that on BE sites contractor safety performance (accident frequency rate) was sometimes better than that of BE employees and sometimes worse. Similarly, he had seen examples where a particular contractor was adopting superior safety management approaches to those of BE and from which BE as the site occupier and customer could itself learn. This was of concern, particularly in the light of the proposed increased use of contractors following the formation of the NDA. He believed all licensees recognised the importance of working with their contractors and treating all accidents on their sites as serious whether to employees or others.
6.3	<b>ACTION 82/1/31: NuSAC to continue to ask BNFL to furnish information on its annual performance and additionally provide some details of the approach taken to contractor safety performance.</b>
6.4	<u>INES Ratings</u> Andrew Clarke said that the INES ratings were not a good safety indicator, but it was the only high level indicator in general use across the industry.
6.5	David Mason said that the IAEA did not recommend using INES ratings to compare the severity of events in different countries. In the UK, there were differences between licensees, these were particularly noticeable at the lower end of the scale, even between sites of the same licensee. He said that INES should not be relied upon. He reminded the committee that it is a voluntary scheme (under the auspices of IAEA), and its purpose is no more than to give members of the public an indication of the seriousness (or not), of an event. He went on to draw attention to the formalised Ministerial reporting criteria, introduced 1986, and to the responsibility of the Chief Inspector to make a quarterly report to Ministers. He said that INES was a means of communicating to the public. It was not meant to be a performance indicator. It was a voluntary system operated by licensees. He said that NII had formalised ministerial reporting

	criteria, which was a duty to report to Ministers every quarter. Records were available from 1986.
6.6	Andrew Clarke said that the report recommended that NuSAC should seek assurance from NII that the differences noted do not reflect variations in safety culture in BE.
6.7	Jeremy Western commented that British Energy's main concern was with open reporting which was essential to a strong nuclear safety culture and which could be damaged by an over-emphasis on numbers of relatively minor events at the bottom end of the INES scale. At the INES 0, 1 and 2 level the scale was not always a precise measure of real nuclear safety significance.
<b>6.8</b>	<b>ACTION 82/1/32 : NuSAC to seek assurance from NII on issues regarding variation of INES data across Civil Licensees.</b>
6.9	<u>Defence Data</u> Performance on the dose data was excellent. No employees or contractors received doses in excess of 5mSv. However, there had been an apparent deterioration in industrial safety performance. NuSAC wished to gain a better understanding of the benchmarking undertaken at sites and improvement programmes in place.
<b>6.10</b>	<b>ACTION 82/1/33: Review Group 5 to discuss with Defence Licensees how they benchmark their industrial safety data.</b>
6.11	John Knott asked whether the 5mSv referred to an overall dose to personnel on site. In reply, Andrew Clarke said that it related to individuals.
6.12	Laurence Williams mentioned another initiative: NSD has addressed the incidence of non-compliance with the Nuclear Site Licences. It was judged that licencees continue to encompass all that is required. He said that part of the inspection programme was the gathering of site information on licence compliance, and discussion with licensees where trends are noticed.
6.13	John Knott said that it was important that a watching brief, especially over the decommissioning programme was maintained. He also thanked Andrew Clarke for the Review and hoped that he would repeat the process next year.
<b>6.14</b>	<b>ACTION 82/1/34: Andrew Clarke agreed on behalf of RG 1 to undertake the process again next year.</b>
6.15	David Mason said that he would act upon differences within BNFL to see the situation resolved. On INES he noted the good performance and the differences between licensees and the range of initiatives – good practice, operations and maintenance and better operations.
6.16	Jeremy Western said that the highest individual doses in work carried out for BE had arisen from an unexpectedly large amount of work carried out inside the reactor pressure circuits at Hinkley Point B and Hunterston B during the year. BE has imposed on itself a 10mSv "Company Dose Restriction Level" over and above the legal limits which requires the Safety Director to personally authorise any work that would result in this dose being exceeded in a year and this applied to contractors as well as employees. This discipline helped ensure that BE worked closely with the contractor to apply rigorously

	the "as low as reasonably practicable" requirement.
6.17	Andrew Clarke in response said that it would be helpful if NuSAC were kept informed of developments.
<b><u>Item 7: 12-Hour Shift Working Arrangements at Hinkley Point B NPP (BE) Paper NuSAC (2004)P2</u></b>	
7.1	The paper was presented by Murdo Allan, HPB Operations Manager.
7.2	Murdo Allan said that since the station first operated there had been a shift pattern based on 8 hours incorporating a "double back-shift". The station supported by an external WANO peer review identified that this was not consistent with modern best practice and examined a variety of alternatives before concluding that a change to 12-hour shift periods should be considered. Among other things, the change would reduce shift handovers from three to two and there would be less disruption when changing shifts.
7.3	Murdo Allan said that the possibility of fatigue had to be thoroughly addressed. Coping strategies had to be developed, educating staff to adopt to the changes
7.4	The mitigations were training of staff and the provision of rest facilities. Napping of at least 20 minutes and the well being of the workers when they were driving home after a shift were included. Breaks were formalised and there was a skilled Reactor Desk Officer.
7.5	Murdo Allan said that the monitoring for potential fatigue involved a logical reasoning test. Data was collected regarding the effect of the change arrangements. There was a Workforce Review Group to look at the new arrangements for 12-hour shift working.
7.6	Key Indicators of the effects of the change were: <ul style="list-style-type: none"> <li>• Nuclear safety events and near misses</li> <li>• Personal safety events and near misses</li> <li>• Sickness</li> <li>• Staff acceptance for the change. This amounted to 60%.</li> </ul> The information supporting the indicators included fatigue, quality of shift handovers, reduction in overtime, take up of breaks, napping, and task observation.
7.7	In conclusion, Murdo Allan said that the change did not have any detrimental effect on performance. The effect on station risk was minimal and there was a reduction in sickness.
7.8	Andrew Clarke said that RG1 had a mature technical debate with British Energy. Many issues had been raised and satisfactory responses given. It was a good example of the regulatory process working; NII had required more justification of the change. The resulting work was of generic value. RG1 was particularly pleased to have direct discussions with the Nursing Officer, who had explained how any resulting health problems would have been picked up, and there had been none.
7.9	Neville Moray said that in his experience (as a human factors specialist) these results were almost universal. Murdo Allen

	confirmed that some workers with long term health problems had retired during the 12 hour shift working trial without actually working that pattern and they had been excluded from the results. On overtime, he said that no worker was allowed do an additional shift at either the start or finish of a shift.
7.10	In response to Members questioning on ‘moonlighting’, the novelty effect and training, Murdo Allan said that there was no evidence of workers moonlighting. Data showed that the novelty effect had been sustained. On training, and in particular refresher training, he said that 20 days a year was allocated for training. Also, part of overtime is used for training.
7.11	Overtime was controlled by limiting the nThe EU aggregated 35 hour week is accommodated in the cycle and the rota allows four spare shifts per 10-week cycle. This provides for training as well as spare capacity within a shift to cover unplanned absences. The concept was well-received by the Committee.
<p><b><u>Item 8: The Benchmarking and Review of NSD Assessment Standards</u></b>  <b><u>Paper NuSAC(2004)P4</u></b></p>	
8.1	In introduction, Laurence Williams said that it was 12 years since the latest version of NII’s SAPs were published. Industry has changed, there was increasing interest in radioactive waste management and decommissioning and NII’s increasing defence role, the IAEA safety standards had improved and acquired more status in relation to the Nuclear Safety and Joint Conventions and there was increasing pressure from the EC with regard to harmonisation of nuclear safety standards in Europe.
8.2	Laurence Williams gave an outline of NII’s project to revise the SAPs in the light of the above changes. The main approach would be to align the SAPs with the IAEA standards. He said the Industry and other key stakeholders would be consulted as the new SAPs and standards developed. The project was due to end in 2005. Laurence Williams agreed to present a progress report to NuSAC at the July meeting.
8.3	<b>ACTION 82/1/35: Laurence Williams to present a further paper on SAPs at the July 2004 meeting.</b>
8.4	David Mason, BNFL Magnox asked about the review of SAPs with regard to Decommissioning. Laurence Williams said that the new SAPs would clearly address decommissioning standards and they would take into account current world best practice.
8.5	Richard Mayson, BNFL, asked at what stage industry would be consulted. Laurence Williams said that NII would engage with industry at various stages throughout the project.
8.6	The Chair asked whether the guidance would be in the form of a rule book or a variation of one.
8.7	Laurence Williams said the exact architecture of the revised SAPs had to be discussed but he anticipated that they could follow the IAEA Safety Standards with clear requirements to be met supported by guidance on how to meet them.

8.8	Bryan Edmondson said that SAPs had many positive advantages but thought that consistency with ToR ought to be reviewed.
8.9	On harmonisation of risks, Laurence Williams said that there was clear recognition that ToR was the right framework and there was no intention to change.
<b><u>Item 9: Any other Business</u></b>	
9.1	(i) MoD Nuclear Weapon Regulator: Alan Brandwood said that AWE had entered into a live cycle of 12 months of shadow working in order to see how the Nuclear Weapon Regulator (NWR) would interface with NII. Andrew McFarlane explained that committee members were well aware of the role of his post, the Chairman of the Naval Nuclear Regulatory Panel (CNNRP), in regulating those aspects of the Naval Nuclear Propulsion Programme that are exempt from licensing under the Nuclear Installations Act, on behalf of the Secretary of State for Defence. Recently a new MoD post of Nuclear Weapon Regulator had been established to similarly regulate all aspects of the Nuclear Weapon Programme that are exempt from licensing under the NIA. Although separate appointments, Andrew McFarlane works very closely with Mr Andy Moore, the Nuclear Weapon Regulator, and would represent both MoD Regulators at the NuSAC.
9.2	Laurence Williams emphasised that this was a joint regulation process (not a dual one), and that the NII would work closely with the licensee and NMR as NII already does with the CNNRP.
9.3	(ii) <u>AGR fuel failure</u> : Paul Haigh asked whether Jeremy Western would provide information on the Advanced Gas-Cooled Reactor (AGR) fuel failure rate.
<b>9.4</b>	<b>ACTION 82/1/36 : Jeremy Western to provide information on the AGR Fuel failures to RG2.</b>
<b><u>Item 10: Date of Next Meeting</u></b>	
10.1	The next meeting of NuSAC Main Committee will be held on Thursday, 8 July 2004 in the Rose Conference Room, Rose Court, London, commencing at 10.00 hours.

## **ACTION LIST - MAIN MEETING HELD ON 4 MARCH 2004**

**ACTION 82/1/25:** Laurence Williams to explain the project in more detail at the July 2004 meeting. Also to give a presentation on how NII regulates so as to gain NuSAC's general support for NII's work.

**ACTION 82/1/26:** BE to prepare a report on how nuclear safety is maintained, in particular the proposed closure of Peel Park for the July 2004 meeting.

**ACTION 82/1/27:** Laurence Williams to provide information on resources for decommissioning.

**ACTION 82/1/28:** Richard Mayson to prepare a paper on the TPP trials for NuSAC.

**ACTION 82/1/29:** Laurence Williams to inform NuSAC of the position following discussions with DTI and NELPG.

**ACTION 82/1/30:** Commodore McFarlane to reinforce the need for appropriate NuSAC/DNSC collaboration with the secretary of DNSC.

**ACTION 82/1/31:** NuSAC to continue to ask BNFL to furnish information on what it was doing to improve contractor management arrangements.

**ACTION 82/1/32:** NuSAC to seek assurance from NII on issues regarding variation of INES data across Civil Licensees.

**ACTION 82/1/33:** Review Group 5 to discuss with Defence Licensees how they benchmark their industrial safety data.

**ACTION 82/1/34:** Andrew Clarke agreed on behalf of RG 1 to undertake the process again next year.

**ACTION 82/1/35:** Laurence Williams to present a further paper on SAPs at the July 2004 meeting.

**ACTION 82/1/36:** Jeremy Western to provide information on the AGR Fuel failures.