

# Nuclear Safety Advisory Committee Annual Report 2007/08



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## Foreword

It is with great pleasure that I present this year's Annual Report, covering the work of the Health and Safety Executive's Nuclear Safety Advisory Committee (NuSAC) from July 2007 to June 2008. NuSAC will continue to publish this report on an annual basis.

I would like to welcome two new members, Peter McIntyre and David Horsley, who joined the Committee in November 2007.

Throughout the period covered by this report, NuSAC has maintained its commitment to advising the Health and Safety Commission (HSC) (now merged with the Health and Safety Executive (HSE)) on nuclear safety policy related issues and the adequacy of HSE's research programme.

The reporting period has been a busy one. NuSAC has continued to operate on the basis of its six existing review groups, each identifying and pursuing a major theme across the nuclear industry. These are now supported by five task forces designed to address particular cross-cutting issues then report and disband – as, in fact, one task force already has done.

Notable achievements include a thorough investigation of the impact on safety of the Nuclear Decommissioning Authority (NDA) funding reductions; an assessment of the fragility of the Magnox reprocessing programme at Sellafield; reviews of nuclear safety research; and a detailed statistical assessment of the progress made by the industry since 1990 with regard to key safety performance indicators.

This report identifies a number of challenges for the future. I am confident that the impending reconstitution of NuSAC will strengthen its capacity to meet these challenges and continue to provide HSE with timely and authoritative advice.

Finally, I should like to thank all members, observers and the NuSAC Secretariat for their hard work and dedication to NuSAC activities. I would especially like to pay tribute to the outstanding contributions of Gordon Munro, Bill Heafield, who died during the year, Neville Moray, who left the Committee after ten years of service, and Barry Cripwell, who has left the Committee after eight years of service.

**Dr Stephen Vranich**  
**Chairman**

## Introduction

1 NuSAC is one of a number of advisory committees appointed under the Health and Safety at Work etc Act 1974, to provide HSC with advice. NuSAC's Terms of Reference are:

- 'to advise HSC on matters which are referred to it or which it considers require attention regarding nuclear safety policy and its implementation at nuclear installations; and
- to advise the HSC on the adequacy and balance of HSC's nuclear safety research programme.'

NuSAC's current membership is listed in Appendix 1.

2 NuSAC's current work plan, as endorsed by HSC in January 2008, is in Appendix 2. It is structured to meet HSC's wish that advisory committees take a more strategic approach. This work plan runs until October 2008, at which time NuSAC is due to be reconstituted. This report covers work done under the current work plan and its predecessor.

3 Throughout the last year, NuSAC has operated on the basis of six review groups, each pursuing a major theme across the nuclear industry. These are:

- safety management and performance;
- fuel cycle operations and interim safety;
- nuclear decommissioning policy;
- emergency arrangements;
- defence sector; and
- research.

4 These have been supplemented by five task forces designed to address the following cross-cutting issues:

- regulatory framework;
- interfaces between organisations;
- safety culture issues;
- the International Commission on Radiological Protection's (ICRP's) 2007 recommendations; and
- new build of reactors.

The task force on the 2007 ICRP recommendations has reported and disbanded.

## NuSAC meetings in 2007/08

5 In addition to review group and task force meetings, three meetings of the full Committee took place over the period covered by the Annual Report – on 5 July 2007, 26 October 2007 and 10 April 2008. Minutes of NuSAC meetings are available at [www.hse.gov.uk/aboutus/meetings/iacs/nusac/index.htm](http://www.hse.gov.uk/aboutus/meetings/iacs/nusac/index.htm).

6 At NuSAC's 5 July 2007 open meeting, members of the public were invited to submit questions to NuSAC on nuclear safety. Topics discussed included possible construction developments near nuclear sites; approaches to informing people near nuclear sites of emergency arrangements; and operational safety issues concerning specific nuclear sites.

7 The meeting on 26 October 2007 was preceded by a visit to the Sellafield site. NuSAC was able to see first hand the very significant challenges faced by the site in decommissioning some of the high-hazard facilities. It noted the uncertainty introduced on site by the lengthy NDA competition process to find a new 'parent body organisation' (PBO). Nevertheless, NuSAC found that there was a good safety focus across the site, with a well

motivated and enthusiastic workforce. There was recognition of the value of 'learning from experience' and good use was made of available resources (eg those provided by the World Association of Nuclear Operators (WANO)) to support learning.

## Achievements

### **Safety management and performance**

#### ***Learning from experience***

8 An effective 'learning from experience' programme is internationally recognised as an important tool for every licensee to use to maintain the highest levels of safety performance. NuSAC members discussed the British Energy programme with Sizewell B and British Energy corporate staff, and were encouraged to see that this programme is fully embedded at the power station and is used routinely by the workforce. This involves the two-way exchange of experience with operators of similar facilities in the UK and abroad.

#### ***ALARP***

9 With the new contractual arrangements that came into operation when NDA was formed, NuSAC has been monitoring licensees' approaches to worker dose limitation, particularly their application of the 'as low as reasonably practicable' principle (ALARP). The topic is important given the increased levels of decommissioning, remediation and maintenance in high-radiation fields faced by some licensees and the possibility that the work will be undertaken by a broader spectrum of contractors than before. Based on visits to Sellafield, Dounreay, Sizewell B, Hinkley Point A and Hunterston A, NuSAC members have been impressed by the managerial approach to secure optimised dose reduction strategies. However, it is clear some licensees will face significant challenges as decommissioning work proceeds. NuSAC members plan to have further discussions with selected licensees to be satisfied that an appropriate strategic approach to ALARP is being applied across all projects on a site.

#### ***Skills development***

10 At the July 2007 open meeting, NuSAC received presentations from COGENT (the national skills sector council that deals with the nuclear industry) and NDA on the initiatives being taken nationally to secure the skilled workforce needed to safely operate and decommission the UK's nuclear facilities in the years ahead. NuSAC was particularly encouraged by the steps taken so far, which included enhanced support for selected university departments and courses and the formation of the Nuclear National Skills Academy.

#### ***Safety performance overview***

11 NuSAC produced its ninth annual commentary<sup>1</sup> on comparative key safety performance indicators provided by all major licensees. This provided an objective assessment of the progress made by the industry since 1990, identifying any anomalies. Licensees were able to use it to judge the performance of their companies relative to their peers in the same or similar industries, and use this to inform decisions about programmes needed to maintain and improve safety performance.

#### ***Safety culture***

12 Through a committee presentation and a meeting with Nuclear Directorate (ND) experts, NuSAC sought to be better informed on ND's development of safety culture as a working tool. The work is based on the view that the starting point is sound leadership at licensee

corporate level, with any scrutiny of cultures at site level incorporated, as far as possible, into site inspection routines – the whole approach to be grounded in a set of desirable safety culture attributes drawn from worldwide experience. NuSAC also had preliminary discussions with the site licence companies' (SLC's) safety directors to explore their views on the importance and practicalities of safety culture improvement programmes. There was good support for the overall approach and a basis was agreed for further sampling of the licensees' safety culture programmes. NuSAC feels that safety culture evaluation has the potential to magnify the influence of HSE as regulator on the collective behaviour of SLC staff.

### ***Licence conditions***

13 NuSAC considered a review by ND of the effectiveness of the nuclear site licence conditions that control organisational change and the maintenance of a clear safety responsibility within each licensee. NuSAC has advised ND that periodic reviews should be undertaken to ensure that examples of NDA (as fund provider) undermining the responsibility of the licensee are minimised.

## **Fuel cycle operations**

### ***Management of uranium hexafluoride***

14 NuSAC has completed a review of the storage conditions of uranium hexafluoride (UF<sub>6</sub>) 'tails' and other materials on the Urenco Capenhurst Ltd (UCL) and Sellafield Ltd sites at Capenhurst. The two sites are different in many respects: the UCL operation typifies a vibrant expanding operational facility while the Sellafield Ltd site at Capenhurst is in the later stages of decommissioning. The NuSAC team toured both sites and had the opportunity to talk to trade union representatives; it found the on-site situation to be satisfactory in both cases and no recommendations for remedial action were necessary.

### ***Magnox reprocessing at Sellafield***

15 A study was made of the fragility of the Magnox reprocessing programme at Sellafield, particularly addressing whether there could be safety issues associated with residual fuel. A recent NDA review of the Magnox performance had caused the projected period of operation to be extended by four years to 2016.

16 Given the age and condition of much of the plant, NuSAC considers that there is a small but significant chance that the reprocessing route for Magnox fuel will become unavailable. Under the direction of NDA, Sellafield Ltd is studying contingency plans. However, implementation of any of the plans identified so far would entail considerable research and development so Sellafield Ltd is focusing on maintaining the viability of the reprocessing route. NuSAC agrees that this is the best course of action.

### ***Windscale Pile 1***

17 Against the background of the 50th anniversary of the accident on 10 October 1957, NuSAC was updated on the situation within the damaged Pile 1 at Windscale. Substantial inspections of fuel channels have been carried out although none yet in the fire-affected zone. The safety issues appear to have been thoroughly considered in advance of the inspections, which themselves have revealed nothing of particular concern. NuSAC will continue to review the situation, probably on a biennial or triennial basis.

### ***Other sites***

18 NuSAC's visit to Dounreay noted a substantial reduction in hazard, including that achieved by treatment and disposal of stocks of sodium. Plans and designs for other facilities appeared to be advancing satisfactorily, after radical changes from the previous site restoration plan. However, more work will be needed to develop routes for other materials and to define the eventual site condition.

19 At Springfields there was progress towards reducing various uranium residues, and returning uranium as material which represents an asset, rather than a waste or other liability.

### **Definition of 'bulk quantities' of radioactive waste**

20 HSE must regulate, through nuclear site licences, sites on which there are storage facilities for 'bulk quantities' of radioactive wastes originating from the nuclear industry. In the past almost all bulk storage has been carried out on sites that are licensed for other reasons, so there has been no need for a definition of 'bulk quantities'. This might not be the case in future because the nuclear industry is becoming fragmented. HSE wishes to clarify the interpretation of 'bulk quantities'. NuSAC commented on HSE's proposals for such an interpretation. The comments raised a number of questions, which HSE will consider in developing its proposals and discussing them with the Environment Agency and the Scottish Environment Protection Agency (SEPA).

## **Nuclear decommissioning policy and progress**

### **NDA funding**

21 The main focus of NuSAC work in the area of nuclear decommissioning policy in 2007/08 was a review of NDA and SLC funding. As well as looking again at the advice it gave when NDA was set up, NuSAC assessed information obtained from its general site visits and from a series of specifically focused visits (to Sellafield Ltd, and with Magnox Electric directors, ND, the Environment Agency, NDA and the Department for Business, Enterprise and Regulatory Reform (BERR)). The main questions addressed in the review related to the effects on safety of overall funding, its allocation between sites and the subsequent spend profiles at sites.

22 The main conclusions of the review are:

- the current level of NDA funding is sufficient to maintain safety in the nuclear industry in the short term;
- there are concerns about the effect on longer-term safety of moving funding away from Magnox and the United Kingdom Atomic Energy Authority (UKAEA) sites;
- there is also concern that decommissioning programmes have slipped when compared against timescales envisaged when NDA was set up; and
- a good relationship between NDA, SLCs and ND/the Environment Agency/SEPA going forward is the key to success.

### **Decommissioning progress**

#### ***Hinkley Point A, Hunterston A***

23 These two sites were visited to compare and contrast their decommissioning progress and safety performance. In the past progress was slower at Hunterston than at Hinkley, where there was a decade in which little was done. In recent years work has speeded up at Hunterston. At the time of the visit, Hinkley was seen to be keen to accelerate decommissioning and reach site clearance rapidly but was thought likely to be held back by lack of funds. NuSAC was impressed with the high standards of safety and the positive management and staff attitudes at both Hinkley Point A and Hunterston A. NuSAC's primary concern for the future was that lack of NDA funding would impede decommissioning progress and undermine the changes for the better that have occurred at these sites since NDA came into being.

#### ***Dounreay***

24 NuSAC found that substantial progress had been made in the areas viewed since the 1992 Nuclear Installations Inspectorate (NII) Audit Report and NuSAC's last visit in 2004. Interfaces with NDA appear to be working well as described by UKAEA and NDA staff. Good progress had been made in revisiting the strategy for processing the fuels and wastes held

on site, and in making real advances on the ground. The dominant issue on the site was the continuing uncertainty of the NDA funding and the likely impact on skill and resource retention. The Dounreay Site Director presented a paper<sup>2</sup> on further progress to NuSAC's April 2008 meeting. One conclusion of the paper was that stability of future funding was essential to manage the decommissioning programme for a remote site such as Dounreay, which relied on a sufficient pool of workers remaining in the area rather than seeking work further south.

#### *Sizewell A and B*

25 NuSAC was advised that, while working relationships between the A and B sites remained very good at staff level, the uncertainty of funding from the A site's perspective was limiting progress on some joint projects. None of these were directly related to safety.

## **Emergency arrangements**

26 Members of NuSAC held discussions with the Ministry of Defence (MoD), BERR and Scottish Government representatives about how improvements might be made in arrangements for developing and disseminating public safety information during emergencies at licensed civil and military nuclear sites. The meeting was arranged because of NuSAC's concerns about poor performance in the media briefing and public safety information aspects of emergency response. This poor performance had been observed by NuSAC at Level 3/Grade A exercises (eg Short Sermon, Oscar) over a number of years.

27 It was recommended that lead organisations responsible at national (Great Britain) and local level for preparation and response to nuclear emergencies should:

- look at methods of plugging the information gap in the early stages of an emergency;
- take a more modern approach overall to communicating with people and the media; and
- take a more realistic approach to information co-ordination and output arrangements at local area Strategic Co-ordinating Group level.

## **Defence nuclear sites**

### ***Atomic Weapons Establishment***

28 NuSAC visited the Atomic Weapons Establishment (AWE) at Aldermaston and Burghfield in March 2008, accompanied by a member of the Defence Nuclear Safety Committee (DNSC). The purpose of this visit was to gain insight into the work of AWE and an indication of topical safety management issues.

29 From the accident and injury statistics (eg those gathered under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)) recently provided to NuSAC from nuclear sites in the UK, it was evident that AWE was leading the defence sector in terms of its safety performance for employees. NuSAC felt that, depending on the outcome of further discussions, it could well be of benefit for AWE to share its strategies in achieving this performance with other defence sites. DNSC and the Defence Nuclear Safety Regulator, as well as NuSAC and ND, would have roles to play in this dissemination.

### ***Devonport***

30 Following NuSAC's visit to Devonport Royal Dockyard in June 2007, the issues and findings were discussed with Devonport Management Limited (DML). NuSAC will undertake further scrutiny, following the recent takeover of Devonport by the Babcock Group, to establish what policy or strategic changes in the management of nuclear safety have occurred or are planned. Before the takeover, it was judged by senior DML staff that the new management regime was likely to be beneficial overall.

### ***Links to the Defence Nuclear Safety Committee***

31 The Chairs of NuSAC and DNSC met in summer 2007 to explore commonalities between the roles of NuSAC and the DNSC, and to gain an understanding of each other's work – in particular, the remits of NuSAC's (then) newly set up task forces, and issues relating to the management of waste.

### ***Management of defence radioactive wastes***

32 NuSAC and DNSC jointly attended a briefing on the MoD strategy for management and disposal of radioactive wastes arising from the nuclear propulsion and weapons programmes. This briefing was the latest step in formulating an implementation programme within MoD. NuSAC will continue to take a close interest as this is developed. It is anticipated that MoD will present a paper on this topic to NuSAC during the coming year.

## **Research**

### ***Reviews of research***

33 NuSAC has the responsibility to inform HSE each year whether the nuclear research programmes of the industry and its regulators are adequate and balanced in supporting nuclear safety in the UK. To do this NuSAC meets representatives of HSE's ND, nuclear licensees and NDA. It also receives technical documentation for scrutiny. This year's Annual Report on the Nuclear Safety Research Programme, can be downloaded from HSE's website.<sup>3</sup> Based on its sampling of research, NuSAC concluded that good progress has been made to define and develop the topics requiring safety research in the UK. The safety research situation was considered to be satisfactory, but in the longer term in need of continuing encouragement and scrutiny.

### ***Research topics***

34 For some years, NuSAC has considered that the research for nuclear processing plants may have been inadequately represented in the material it reviews. NuSAC has created a list of topics for reactors and processing plants that it wishes to explore, and has established meetings, industry contacts, and suitable co-opted members to allow investigation. NuSAC is not in a position to review all research, but it can take a view from what it samples. This process is working well, with NuSAC representation on the NDA Research Board, the Nuclear Waste Research Forum (NWRF), industry meetings and numerous ad-hoc contacts.

### ***Research to support reactor operation***

35 HSE produces an annual report into the research being undertaken to support reactor operation, including the Nuclear Research Index. By 2006, this had become so inconsistent and out of date that it received criticism. Following a concerted effort, the 2007 document is fit for purpose, and demonstrates the current position. While some areas continue to require work (eg the disposition of graphite), the overall research position is satisfactory.

### ***Technical baseline research documents***

36 NuSAC has responded to the technical baseline research documents (TBRDs) produced in 2007 and 2008 by the SLCs for NDA. These display the lifetime plans for each site, where information is missing, and the research and development projects being sponsored to fill the gaps. NuSAC felt that the 2007 TBRDs were useful but had reservations about whether technical confidence was being overstated, and that there seemed to be a failure to acknowledge where problems were common to several sites.

37 The 2008 TBRDs showed progress in resolving these issues and form a good basis for managing research and development. NuSAC has more confidence in their completeness.

It noted that the establishment of NWRP and other avenues were encouraging sharing of problems and solutions. There was more emphasis on human factors. NDA funding restrictions had had an impact and there was potential for deferral of research and development to have safety implications.

### **Responses to consultations**

38 NuSAC has, over this reporting period, advised HSE on two Government consultations:

- it advised HSE on the *Managing radioactive waste safely consultation* undertaken by the Department for Environment, Food and Rural Affairs (Defra); and
- it gave advice to HSE for its response to the BERR consultation on funded decommissioning programme guidance for new nuclear power stations.

39 In addition, NuSAC (through Task Force 4) gave advice to HSE on the ICRP 2007 recommendations.

## **Challenges**

40 The nuclear industry is at a crossroads. There is the expectation of new nuclear build, but the design, construction, research, operation and decommissioning are likely to be organisationally very different from previous UK experience. At the other end of the spectrum, there is a decommissioning programme and ownership regime, again fundamentally different from past experience. This creates challenges for NuSAC, some of which are set out below.

### **Education, training and skills development**

41 With any significant new nuclear generation and the ageing of the nuclear industry workforce, there will be increased requirement for nuclear skills. NuSAC is in a good position to monitor the overall situation on education, training and skills development and to make recommendations for actions to avoid or resolve problems.

### **Interfaces between organisations**

42 NuSAC has already established a task force to review the interfaces between SLCs, PBOs, NDA, ND, the Environment Agency, SEPA, BERR and other government departments and devolved administrations. The intention is that it will advise on issues with interactions between the organisations and cover the whole nuclear industry including new build, decommissioning, waste management and ongoing operations – on a site, regional and central basis.

43 NuSAC has a general view on how well interfaces are working, based on observations and conclusions from routine site visits, and meetings to review NDA funding and its potential effect on nuclear safety. It is clear this area needs a more focused approach during 2008. In particular, the framework for tripartite working (SLC/NDA/regulators) is relatively new and untested. Its effectiveness will rely heavily on the relevant parties having common goals and working constructively together. NuSAC needs to investigate this further and make recommendations for improvements where necessary.

## Geological disposal

44 In 2006, the Government accepted the recommendation of the Committee on Radioactive Waste Management (CoRWM) that the long-term management method for the UK's higher activity radioactive wastes should be geological disposal, preceded by a period of safe and secure interim storage. Defra consulted on the implementation of a geological disposal programme in 2007 and reconstituted CoRWM to carry out independent scrutiny of the programme and provide advice to ministers.

45 It is now part of CoRWM's terms of reference to liaise with NuSAC. Such liaison is a challenge for NuSAC because geological disposal is a new subject area, and one in which there is no direct UK experience. The timescales involved are much longer than for other nuclear facilities: decades to establish a disposal facility, 50 years or more for operation, hundreds of years of monitoring, and tens of thousands of years for the activity of the wastes to decay to low levels.

46 It is anticipated that NuSAC's liaison with CoRWM will initially focus on interim storage of wastes and materials that may be declared waste. There will also be liaison on waste conditioning and packaging, the implementation of the regulatory framework for geological disposal, and research and development related to both storage and disposal. The liaison may take the form of discussions with individual members of CoRWM, joint participation in various meetings (eg those organised by the NDA), and contributions to reports.

## New nuclear power stations

47 NuSAC has traditionally taken a methodical approach to technical studies it has carried out, involving significant interactions between its review groups, task forces and all members through debate at its meetings. The timetable for the various aspects of the new build programme (eg generic design assessment, strategic site assessment) will require NuSAC to respond to very specific deadlines on matters referred to it. The challenge for NuSAC is to be responsive to such demands without compromising the quality of its collective advice.

## Appendix 1 List of NuSAC review groups, task forces and members

RG1	Safety management and performance
RG2	Fuel cycle operations and interim safety
RG3	NDA and decommissioning policy
RG4	Emergency arrangements
RG5	MoD
RG6	Research
TF1	Interfaces between organisations
TF2	Regulatory framework
TF3	Safety culture
TF4	ICRP 2007 recommendations
TF5	New build of reactors

	RG1	RG2	RG3	RG4	RG5	RG6	TF1	TF2	TF3	TF5
Sheila Ashford			✓	✓						✓
John Billard			✓	✓					✓	
Richard Bird					✓		✓			
Robin Bloomfield	✓					✓			✓	✓
Malcolm Bonnett										
Andrew Clarke	✓		✓					✓		✓
Roger Coates			✓				✓	✓	✓	
Barry Cripwell	✓			✓						
Richard Dolby						✓				
Pam Duerden					✓			✓		
Bryan Edmondson					✓				✓	✓
Robin Grimes						✓				
Paul Haigh		✓				✓				✓
Marion Hill		✓	✓				✓	✓		
David Horsley		✓								
Peter Manning		✓				✓				✓
Peter McIntyre			✓		✓					✓
Rod McKenzie				✓	✓					
Alan Muir	✓					✓		✓		
Murray A Sinclair									✓	✓
Stephen Vranich (Chair)										
Anthony Webb	✓		✓				✓			

# Appendix 2 NuSAC revised work plan for April 2007–October 2008

## Foreword

The NuSAC work plan for 2007 and 2008 has been collated from plans prepared by review group leaders and input from NuSAC members at November 2006, March and July 2007 meetings. In addition to the continuing work of the review groups, a number of cross-cutting issues have been identified that would benefit from being dealt with as tasks, drawing on the experience of members from several review groups (RGs). Five ‘task forces’ (TFs) have been set up to address these issues as shown below. The outcome of the tasks and activities will be reports, advice or guidance that can be published by NuSAC.

## Cross-cutting issues and task forces

### **TF1: Interfaces between organisations**

*Members: Anthony Webb (lead), Dick Bird, Roger Coates and Marion Hill*

- Interfaces between SLCs, PBOs, NDA, ND, the Environment Agency, SEPA and BERR (and other government departments and devolved administrations).
- Advise on issues with the interactions between the organisations.
- Cover the whole nuclear industry including new build, decommissioning, waste management and ongoing operations.

### **TF2: Regulatory framework**

*Members: Marion Hill (lead), Andrew Clarke, Roger Coates, Pam Duerden and Alan Muir*

- Whether legislation, licensing arrangements and regulatory guidance are fit for purpose.
- What improvements can be made (to legislation or guidance, or HSE’s application of them).
- Engagement with ND in its review of licence conditions, including familiarisation with licensees and NDA views.
- Regulatory framework for waste management and disposal (including new facilities for low-level waste disposal and proposed deep repository).
- Interfaces between regulators (ND, the Environment Agency, SEPA and the Office for Nuclear Civil Security (OCNS)).

### **TF3: Safety culture**

*Members: Bryan Edmondson, Roger Coates (lead), John Billard, Robin Bloomfield and Murray Sinclair*

- Gain an understanding of what HSE is doing to influence safety cultures and whether it has enough resources.
- Investigate what licensees are doing to assess and strengthen safety cultures at their sites.

### **TF4: ICRP recommendations**

*Members: Roger Coates (lead), Barry Cripwell, Pam Duerden, Marion Hill and Alan Muir*

- Advise HSE on potential implications of the forthcoming ICRP recommendations.

### **TF5: New build of reactors**

*Members: Andrew Clarke (lead), Sheila Ashford, Robin Bloomfield, Bryan Edmondson, Paul Haigh, Peter Manning, Peter McIntyre, and Murray Sinclair*

- Advise HSE on technical design issues, as required.

## **Review group activities**

The work of the review groups has been reviewed and prioritised. Their most significant areas of work are as follows. As well as monitoring and performing reviews, the review groups prepare reports and recommendations and publish guidance.

### **RG1: Safety management and performance**

*Members: Andrew Clarke (convenor), Robin Bloomfield, Barry Cripwell, Alan Muir and Anthony Webb*

- Safety performance: provide an independent view on plant operator safety performance; monitor and provide recommendations with regard to SLC staff and contractors' radiological dose trends; understand and monitor safety attitudes and priorities of senior management of operators.
- Resources: seek assurance there are sufficient educated and trained people to support existing and future operations.

### **RG2: Fuel cycle operations and interim safety**

*Members: Paul Haigh (convenor), Marion Hill, David Horsley and Peter Manning*

- Waste management: Sellafield legacy waste; Springfields uranium residue plant and effect of planned closure; condition of Magnox reprocessing plant; Capenhurst hex tails; plutonium contaminated materials strategy; Dounreay site's future and review of its decommissioning assets.
- National Nuclear Laboratory.
- Fragility of older fuel cycle plant and equipment.

### **RG3: Nuclear decommissioning policy**

*Members: Anthony Webb (convenor), Sheila Ashford, John Billard, Andrew Clarke, Roger Coates, Marion Hill and Peter McIntyre*

- Safety aspects of implementation of NDA strategy: safety performance; competition; proposed accelerated reactor decommissioning; funding.
- Safety aspects of decommissioning on non-NDA sites.
- Resources: seek assurance that there are sufficient educated and trained people to support existing and future operations.

### **RG4: Emergency arrangements**

*Members: Barry Cripwell (convenor), Sheila Ashford, John Billard and Rod McKenzie*

- Monitoring emergency arrangements: monitoring the work of the Nuclear Emergency Planning Liaison Group; observation of national media arrangements at Level 3 exercises; review and advise on public information and media interface; review implications of integration of nuclear emergency response with response to other types of event.
- International issues: review draft International Atomic Energy Agency and other international documents and their effect on emergency planning.

- Public consultation: review processes for consulting public and stakeholders.

**RG5: Ministry of Defence**

*Members: Dick Bird (convenor), Pam Duerden, Bryan Edmondson, Peter McIntyre and Rod McKenzie*

- Waste management: MoD policy and programme for dealing with its legacy wastes.
- Regulations: coherent regulatory approach required for nuclear and explosives safety.
- Respective roles of NuSAC and DNSC.
- Implementation of the HSE enforcement policy on defence licensed sites.

**RG6: Research**

*Members: Peter Manning (convenor), Robin Bloomfield, Richard Dolby, Robin Grimes, Paul Haigh, Alan Muir and Richard Taylor*

- Identification of safety research areas: identify areas of research considered necessary; take a view on licensees complying with their statutory responsibilities; identify gaps in the research programmes and advise HSE of these and the possible consequences.
- Monitor adequacy of resources for safety research.

## Appendix 3 List of NuSAC papers 2007/08

Except where indicated as 'CLOSED', these papers are available on NuSAC's Internet pages: [www.hse.gov.uk/aboutus/meetings/iacs/nusac/index.htm](http://www.hse.gov.uk/aboutus/meetings/iacs/nusac/index.htm)

Paper number	Title
NuSAC (2007) 01	Safety performance overview of major nuclear licensees – Annual Update – January 2007, covering 2005/06
NuSAC (2007) 02	[Not used]
NuSAC (2007) 03	OCNS review
NuSAC (2007) 04	[Not used]
NuSAC (2007) 05	Legacy waste
NuSAC (2007) 06	Nuclear safety performance (update on HSE's policy and operational issues) and wider issues
NuSAC (2007) 07	Review of legacy waste
NuSAC (2007) 08	Nuclear safety performance report
NuSAC (2007) 09	Update on training skills
NuSAC (2007) 10	The work of COGENT
NuSAC (2007) 11	DTI policy brief presented to NuSAC's 22 March 2007 meeting
NuSAC (2007) 12	Initial thoughts on a system for planning NuSAC's work and budgetary arrangements [CLOSED]
NuSAC (2007) 13	Chief Inspector's report [covering the period 1 June–30 September 2007]
NuSAC (2007) 14	BERR policy brief presented to NuSAC's 26 October 2007 meeting
NuSAC (2007) 15	Leadership for safety culture
NuSAC (2007) 16	Issues of interest to NuSAC
NuSAC (2007) 17	Lessons learned from the THORP feed clarification cell event [CLOSED]
NuSAC (2007) 18	Lessons learned from THORP (ND)
NuSAC (2007) 19	Dose control and use of ALARP at Sellafield
NuSAC (2007) 20	Paper to discuss the status and representation of observers on NuSAC [CLOSED]
NuSAC (2007) 21	Health and safety implications in the event a nuclear licensee enters into insolvency proceedings [CLOSED]
NuSAC (2007) 22	Investigation of whether NDA has unique influence on the management of nuclear safety and environment at licensed sites
NuSAC (2008) 01	BERR <i>Policy brief for NUSAC's meeting of 10 April 2008</i>
NuSAC (2008) 02	Chief Inspector's report
NuSAC (2008) 03	UKAEA paper <i>Dounreay – shaping for the future</i>
NuSAC (2008) 04	Safety performance overview of the major UK nuclear licensees: Annual update – covering the period 2006/07
NuSAC (2008) 05	Safety culture developments
NuSAC (2008) 06	Task Force 1 progress report for April 2008
NuSAC (2008) 07	Impact of the 2007 ICRP recommendations on nuclear safety
NuSAC (2008) 08	Public information aspects of nuclear emergency response

## References and further information

### References

- 1 *Safety performance overview of the major UK nuclear licensees: Annual update – covering the period 2006/07* NuSAC (2008) P04
- 2 *Dounreay – shaping for the future* UKAEA paper NuSAC (2008) P03
- 3 *Annual Report on the Nuclear Safety Research Programme* [www.hse.gov.uk/nuclear/index.htm](http://www.hse.gov.uk/nuclear/index.htm)

### Useful links

Health and Safety Executive:  
[www.hse.gov.uk](http://www.hse.gov.uk)

Nuclear Directorate:  
[www.hse.gov.uk/nuclear/](http://www.hse.gov.uk/nuclear/)

Nuclear Research Index:  
[www.hse.gov.uk/research/nuclear/nri/](http://www.hse.gov.uk/research/nuclear/nri/)

Riddor:  
[www.hse.gov.uk/riddor/](http://www.hse.gov.uk/riddor/)

As low as reasonably practicable:  
[www.hse.gov.uk/risk/theory/alarp.htm](http://www.hse.gov.uk/risk/theory/alarp.htm)

Atomic Weapons Establishment:  
[www.awe.co.uk/](http://www.awe.co.uk/)

Department for Business, Enterprise and Regulatory Reform:  
[www.berr.gov.uk/](http://www.berr.gov.uk/)

COGENT (Sector Skills Council for the chemical, nuclear, oil and gas, petroleum and polymer industries):  
[www.cogent-ssc.com](http://www.cogent-ssc.com)

Committee on Radioactive Waste Management:  
[www.corwm.org.uk/](http://www.corwm.org.uk/)

Devonport Management Limited:  
[www.devonport.co.uk/](http://www.devonport.co.uk/)

Environment Agency:  
[www.environment-agency.gov.uk/](http://www.environment-agency.gov.uk/)

European Union:  
[http://europa.eu/index\\_en.htm](http://europa.eu/index_en.htm)

Health Protection Agency:  
[www.hpa.org.uk/web/home](http://www.hpa.org.uk/web/home)

International Atomic Energy Agency:  
[www.iaea.org/](http://www.iaea.org/)

International Commission on Radiological Protection:  
[www.icrp.org/](http://www.icrp.org/)

Ministry of Defence:  
[www.mod.uk/](http://www.mod.uk/)

Managing radioactive waste safely:  
[www.defra.gov.uk](http://www.defra.gov.uk)

Nuclear Decommissioning Authority:  
[www.nda.gov.uk/](http://www.nda.gov.uk/)

Scottish Environment Protection Agency:  
[www.sepa.org.uk/](http://www.sepa.org.uk/)

Thermal Oxide Reprocessing Plant (THORP):  
[www.sellafieldsites.com/page/what-we-do/sellafield-site](http://www.sellafieldsites.com/page/what-we-do/sellafield-site)

Urenco Capenhurst Limited:  
[www.urencocom/](http://www.urencocom/)

United Kingdom Atomic Energy Authority:  
[www.ukaea.org.uk/](http://www.ukaea.org.uk/)

World Association of Nuclear Operators:  
[www.wano.org.uk/](http://www.wano.org.uk/)

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