

**HEALTH AND SAFETY COMMISSION
NUCLEAR SAFETY ADVISORY COMMITTEE
SUB-COMMITTEE ON RESEARCH**

**Minutes of the 33rd Meeting of the
Nuclear Safety Advisory Committee Sub-Committee on Research
19 September 2003 at Manchester University Chemistry Dept.**

Present:

SCR Members

Manchester University (initial presentation)

Prof J Knott (Chairman)

Prof F Livens (Radiochemistry visit)

Dr P Haigh

Prof Clegg, BNFL & Manchester U.

Prof D Owen

Ms J Ferguson, Manchester U.

Prof S Parry

Prof J Durrell, Dean of Faculty, Manchester U.

HSE

Licensees

Dr P Storey

Dr G P Airey, BE

Dr T McNulty

Mr S Daniell, MGBG

Mr M Mercer

Dr J Dickson, MGBG

Dr A G Miller

Mr J Hobson, BNFL

Mr P Mullen (Secretariat)

1. Preceding visits

1.1 The normal business meeting was preceded by a visit to the Radiochemistry Centre of Manchester University, hosted by its director, Prof. Francis Livens. The Centre is supported by a BNFL University Research Alliance.

1.2 Prof. R. Clegg, Director of Science at BNFL, gave a presentation about BNFL's University Research Alliances and the proposed Dalton Centre at Manchester University.

2. Chairman's Opening Remarks

2.1 The chairman opened the meeting and welcomed the new members. Apologies had been received from Professor Littlewood, Dr. Marchese and Dr. Thomson. Profs. Goddard and Richardson were no longer members. The secretariat agreed to write thanking them for their contributions to NuSAC SCR(**Action 03/12**).

3. Approval of Minutes: 32nd Meeting

3.1 The minutes of the 32nd meeting held in March 2003 (NuSAC/SCR/03/M1) were approved.

4. Matters arising from previous meeting

4.1 Actions

02/16 Dr Marchese to produce a year end report on technical exchanges at the end of FY 03/04 – Continuing

03/1 NSD to update and reissue minutes of 31st meeting - Completed

03/2 NuSAC SCR secretariat to combine the next meeting with a tour of Manchester University Research Alliance and graphite research team
URA visit completed

Action 03/13 (new) - Graphite presentation to be added to agenda of the next meeting

03/3 NSD to inform the next meeting on NDA research of NuSAC SCR's views on

the need for a strategy that encourages generic research - Completed

03/4 NSD to include in future papers to NuSAC SCR additional data to illustrate actual past and predicted future trends of spend on nuclear safety research - Completed

03/5 HSE to revise conclusion to NuSAC/SCR/03/1 in respect of low priority NRI issues - Completed

03/6 BE to supply NSD with their revised 2003/2004 Programme of NRI related research – Completed – (There had been no change to the BE programme)

03/7 NSD to recognise NuSAC SCR's views when preparing the annual evaluation of the Levy programme – Continuing. NSD were currently revising the evaluation process.

03/8 Dr Miller to amend paper NuSAC/SCR/03/8 (SCR Terms of reference) ahead of the meeting of NSRSG on 8 May 2003 - Completed

03/9 NSD to keep NuSAC SCR informed on any problems with technical exchanges – Continuing duty rather than action, addressed here by paper on new arrangements. Discharged

03/10 Professor Knott to contact prospective candidates for membership of NuSAC SCR – Continuing - There were 2 new members, and there was place for one more.

03/11 NuSAC SCR secretary to explore possibility of meeting between NuSAC SCR and reactor licensees' technical representatives, and maybe with BNFL chemical plant and UKAEA staff. – Discharged by following
It was agreed that there would be a series of presentations on technical areas from the licensee and NSD staff, and researchers, starting with graphite as previously agreed in new action 03/13.

5. Nuclear Research Index 2003-09-23

5.1 The new version of the NRI had been issued by HSE to the SCR and the licensees. This document was one of the main inputs to the programme for 04-05. HSE said that they were working on a new format for the NRI that aimed to both improve the clarity of the safety issue to be addressed, and to be better for recording progress and evaluating projects.

- It was agreed that members would let the chairman know which technical areas lay within their competence and interests (**Action 03/14**).
- HSE agreed to send a recent review report of the W&D area to members (**Action 03/15**).
- HSE agreed to send recent Essential Research Capability (ERC) and Independent Technical Capability papers to the new SCR members (**Action 03/16**). Future ERC reviews would be addressed by the licensees Nuclear Research Schedules.
- HSE agreed to distribute to the SCR an EC review of Centres of Excellence in nuclear fission research being prepared by GRS when it was finalised (**Action 03/17**).

6. HSC Co-ordinated programme of nuclear safety research

6.1 Final outturn for 02-03 and update on 03-04 (NuSAC/SCR/03/9)

6.1 HSE presented the paper. There were no new significant changes in the outturn for the 02-03 programme. For the 03-04 programme the most significant change was a reduction in the licensees' W&D programme because NIREX would not accept the use of the additives that one of the projects was intended to address. There had been other changes to the figures previously provided to introduce more consistent accounting.

- HSE agreed to add the figures for the licensees non NRI programme in order to assist evaluation of the total research activity (**Action 03/18**)

- HSE agreed to ensure that the licensees' 04-05 Nuclear Research Schedules were sent to the SCR (**Action 03/19**).
- HSE agreed to make some detailed corrections to the presentation of the figures (**Action 03/20**).

6.2 In response to queries about the levy programme, HSE replied that the levy programme was not meant to be a balanced programme in its own right. Also the cost of projects was variable. For example, some areas had expensive levy projects because they were supporting key teams or extensive EU Framework Programme research.

6.3 The SCR noted the paper and were satisfied with the reasons for the changes.

6.2 Historical spend and forward look 1998-2007 (NuSAC/SCR/03/10)

6.4 HSE presented the paper, which gave statistics on spend since the inauguration of the HSC programme in 1990. There had been an initial decline in the cost of the programme, and a refocusing of the research. After that the rate of decline had slowed, but the value of the programme had not kept up with inflation. The paper also gave a forward look with HSE's view of changes over the next 3 years by technical area. The licensees said that they were in broad agreement with the forward look, and agreed to give their views more formally (**Action 03/21**).

6.5 The committee commented that in 1990 there had still been the prospect of new build, and although fast reactor work was not part of the programme, PWR work was. Large scale testing had been discontinued after the Crossland review. The programme had stabilised after a rapid initial decline caused by these factors. The licensees said that in the 1990s there had been much work on Magnox RPV embrittlement and AGR reheat cracking. The industry programme fluctuated with requirements and the predicted life of the stations.

6.6 In response to a question on skills shortages, HSE replied that research was part of the solution and the proactive Essential Research Capability strategy contributed, but the regulator could also address the issue through Licence Condition 12 on Suitably Qualified and Experienced Persons.

6.7 In response to questions on quality of research and closure of issues, HSE and the licensees replied that fitness for purpose was the main concern, and this was addressed by technical reviews and the issue close out process. If the research were used in a safety case, quality checks were an intrinsic part of that process. The IMC secretary offered to send an example of a C&I close out statement to illustrate the process. (**Action 03/22**).

6.8 With the above comments, the SCR noted the paper.

- HSE agreed to make some detailed changes to the paper before final issue (**Action 03/23**).
- HSE agreed to update the forward look on a regular basis (triennial or as appropriate) (**Action 03/24**).
- HSE agreed to include table 2 with the forward look summary in the next HSC programme paper (**Action 03/25**).

6.3 Implementation of new arrangements (NuSAC/SCR/03/11)

6.9 HSE presented the paper. The DTI guidelines were being revised in discussion with DTI, and the Memorandum of Arrangements was being replaced by a set of Guidance Notes. These had been written in at least draft form except for the levy evaluation process, as the evaluation had not yet started. Strategy and technical exchanges had proceeded to schedule but it was too early to judge the effectiveness of the technical dialogue.

6.10 The licensees tabled a summary of the technical exchanges that had occurred since the start of the new arrangements.

6.11 In response to a question about extending the arrangements to nuclear clean-up licensees and others, HSE replied that the NDA would start its functions soon, and HSE would not be able to implement new arrangements before then, other than for BNFL chemical plant as in paper 13 and with an annual presentation by UKAEA. HSE research unit had discussed the issue with regulatory colleagues. For reasons of timing and resource constraints, there was no immediate intention of addressing safety research for other licensees. The committee expressed strong concerns about the possible future of generic research after the advent of the NDA. The chair said it still believed the issue of extending the arrangements to nuclear clean-up and other licensees should be pursued, and it would consider raising the issue at the main NuSAC.

6.12 The committee expressed concerns about inter licensee dialogue, which had not been addressed by the HSE paper, and said that HSE should monitor this also.

6.13 With the above comments, the SCR noted the paper.

6.4 Human factors research status (NuSAC/SCR/03/12)

6.14 HSE presented the paper. There had been a technical area meeting that week, and the licensees had agreed that HSE should present a joint paper. The paper addressed the concerns raised by NuSAC SCR on human factors research and the lack of agreement on progress. HSE concluded that they had regained confidence in the licensees' arrangements and commitments, and all parties were working well together.

6.15 In response to a question about the correspondence of issues and projects, HSE replied that although the issues were being addressed, the issues and projects were not well aligned. The HSE/NSD research unit were encouraging the issues to be rewritten to address this problem.

6.16 In response to a question about why the organisational drift and communications issues remained unresolved, HSE replied that:

- after failing to secure WANO's assistance to address organisational drift, the licensees had agreed let a research contract themselves
- the licensees were discussing with HSE how best to progress the outcome of a recently completed research report on communications.

6.17 The SCR were satisfied that there was now a better understanding of the issues and a clear intention by the licensees to address them.

7. Nuclear Chemical Plant Research (NuSAC/SCR/03/13)

7.1 HSE presented the joint paper. HSE and BNFL had agreed a new set of arrangements, modelled on the new reactor research arrangements, to improve the transparency of BNFL's chemical plant research to HSE. The current status was that a set of technical area strategies had been agreed, and BNFL was preparing nuclear research schedules, analogous to those for reactor research. These would be presented to the SCR in a year's time.

7.2 BNFL said that Sellafield was being brought into the new arrangements, and they were happy to base the new arrangements on the new reactor guidance, as being best practice. BNFL added that these arrangements would work as long as BNFL was an owner operator, but raised concerns about how they would work under the NDA. HSE agreed that they had reservations about the effect of the competition model favoured by DTI on long-term generic research.

7.3 In response to a question whether the strategies and issues derived from the regulatory arena, HSE and BNFL confirmed that this was the case.

7.4 While the SCR agreed that the advent of the NDA raises potentially significant future concerns, they expressed their full approval of the developing chemical plant arrangements in the current owner-operator environment.

8. Guidelines on scientific advice & policy making (NuSAC/SCR/03/14)

8.1 The committee noted the paper without discussion. HSE will only report policy significant issues if they arise, rather than making an annual report.

9. Terms of reference (NuSAC/SCR/03/8)

9.1 HSE had revised the paper on the terms of reference of the SCR in line with the discussion at the last meeting. The main NuSAC had noted the revised terms of reference, and they were now endorsed.

10. Date of next meeting

10.1 This was fixed at Friday 2nd April 2004 at Barnwood.

Actions

02/16 Dr Marchese to produce a year end report on technical exchanges at the end of FY 03/04

03/7 NSD to recognise NuSAC SCR's views when preparing the annual evaluation of the Levy programme

03/10 Professor Knott to contact prospective candidates for membership of NuSAC SCR

03/12 Secretariat to write thanking Profs Goddard and Richardson for their contribution to NuSAC SCR

03/13 Graphite presentation to be added to agenda of the next meeting

03/14 SCR members to let the chairman know which technical areas lay within their competence and interests

03/15 HSE to send a recent review report of the W&D area to members (note – draft already sent, final version to follow)

03/16 HSE to send recent Essential Research Capability (ERC) and Independent Technical Capability papers to the new SCR members (complete)

03/17 HSE to distribute to the SCR an EC review of Centres of Excellence in nuclear fission research being prepared by GRS when it was finalised

03/18 HSE agreed to add the figures for the licensees non NRI programme in order to assist evaluation of the total research activity

03/19 HSE to ensure that the licensees' 04-05 Nuclear Research Schedules were sent to the SCR

03/20 HSE agreed to make some detailed corrections to the presentation of the figures of paper 03/9

03/21 Licensees to give their views on the forward look

03/22 The IMC secretary to send Prof Owen an example of a C&I close out statement (complete)

03/23 HSE to make some detailed changes to paper 03/10 before final issue

03/24 HSE to update the forward look on a regular basis (triennial or as appropriate)

03/25 HSE agreed to include table 2 with the forward look summary in the next HSC programme paper