

CONFIDENTIAL

RAPTAC 2nd Mtg/79
15 November 1979

COPY NO 11

MINISTRY OF DEFENCE

RADIOLOGICAL PROTECTION TECHNICAL ADVISORY COMMITTEE

Minutes of the Meeting held in Historic Room
13, Ministry of Defence, at 1430 hours on Monday, 29 October 1979

PRESENT

Head of D Sc 3
(In the Chair)

Board Member for Safety
AWRE

Chairman Naval Nuclear
Technical Safety Panel

Superintendent of Facilities
Safety AWRE

Senior Medical Officer
AWRE

Directorate of Civil Medical
Services (Procurement Executive)

Head of Naval Radiological
Protection Service

AWP&F2
(representing Director of Atomic
Weapons Production and Factories)

Mr D C Griffiths
CED(Nuclear)

Directorate of Health and
Research (RAE)

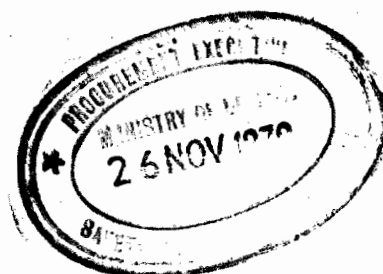
Directorate of Health and
Research (RAF)

SS Org (Procurement Executive)
(representing CSO(PE))

Safety 6
(representing CSO(PE))

RNC

RNC



THE FOLLOWING WERE ALSO PRESENT

[REDACTED]
AD/AWD/B

[REDACTED]
RMCS Shrivenham

[REDACTED]
Gen Sec(PE) HS

[REDACTED]
FMB Devonport

[REDACTED]
FMB Devonport

SECRETARY

[REDACTED]
D Sc 3

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1. THE CHAIRMAN apologized for [REDACTED] absence and welcomed those present who were attending RAPTAC for the first time. On behalf of the Committee he congratulated [REDACTED] on his appointment as [REDACTED] at [REDACTED] with effect from 1 April 1980.

I MINUTES OF LAST MEETING (RAPTAC 1ST MEETING/79)

2. The Minutes of the last meeting were accepted without amendment.

II MATTERS ARISING

3. THE CHAIRMAN reported on matters arising from the previous meeting on 6 April 1979 as follows:

Action 3 was continuing. RNC representatives planned to attend the following conferences:

- a. Symposium on Disposal of Radionuclides into the Marine Environment (Vienna, October 1980)
- b. Symposium on Siting of Nuclear Facilities (1980)
- c. Symposium on Water Chemistry and Corrosion Problems of Nuclear Reactor Systems and Components (1980)
- d. Symposium on Migration in the Terrestrial Environment of long-lived Radionuclides from the Nuclear Fuel Cycle (1981)
- e. 2nd International Conference on Nuclear Power and its Fuel Cycle (1981)

RNC intended to offer a paper for the first of these symposia. They had also had a paper accepted for the IRPA Congress in Israel in March 1980 to deal with training in radiological protection.

Action 4 D Sc 6 did not in fact receive TRAMAC papers. The MOD representative on the Committee was [REDACTED] of [REDACTED], and arrangements had been made for him to inform the Secretary of any items of interest to RAPTAC.

Action 5 No suggestions had been received. It was agreed that this item should be deleted.

Actions 6-8 Completed by RAPTAC 24/79

Action 9 Completed by RAPTAC 16/79

Action 10 Completed by RAPTAC 14/79

Action 11 This had been overtaken by events. The letter would be circulated with a note explaining the present situation.

III NRPB STATUTORY ADVISORY COMMITTEE (RAPTAC 13/79 and 26/79)

4. THE CHAIRMAN said that the agenda and minutes of the last Advisory Committee meeting had been circulated to members. He asked [REDACTED] to highlight anything of importance that had arisen. [REDACTED] said that the TUC proposals for the reduction of dose limits (see Item V of these minutes) had been discussed. The meetings were formal occasions and not a suitable forum for dealing with fundamental problems; these would be better raised by individual members direct with NRPB.

5. THE CHAIRMAN said that because of the government's review of Quangos it had been agreed that [REDACTED] should continue as MOD representative on the Committee for one further year. Normally the post alternated between AWRE and CNNTSP, and the representation would be reviewed in a year's time.

IV MOD DEMANDS ON NRPB OVER THE NEXT FIVE YEARS (RAPTAC 29/79)

6. THE CHAIRMAN said that at short notice he had attended a meeting convened by DHSS in July, when representatives of various departments briefed the NRPB on their probable requirements from the Board over the next five years. He had taken advice from CNNTSP and BMS/AWRE and presented the material they provided at the meeting. [REDACTED], Director of NRPB, had said that he would welcome the opportunity to provide MOD with a fuller account of the Board's activities and to hear about MOD interests in more detail.

7. In discussion the following points were made:

a. [REDACTED] said that unless MOD [REDACTED] provided a proper career structure for its Medical Branch the present expertise in radiobiology would wither away and it would be necessary to turn to an outside agency such as NRPB for advice.

b. [REDACTED] said that NRPB would have a part to play in advising on Emergency Reference Levels (ERLs) and on the ALARA principle.

c. [REDACTED] said that AWRE would be reviewing the question of ERLs in the plutonium dispersal field with NRPB. The latter had a statutory duty to provide technical guidance notes for Health and Safety legislation, some areas of which were unique to MOD. In addition, MOD and the NRPB were both interested in standards of protection for electromagnetic radiation.

d. [REDACTED] said that the NRPB were putting demands on the RAF in connection with the epidemiology of RAF radiation workers, and were aware of the RAF's reservations about the tightening up of standards. Non-ionizing radiation would also have to be considered. He regarded this two-way exchange as a healthy development.

8. THE CHAIRMAN

(1) Requested members to notify the Secretary by 30 November of any MOD demands on NRPB foreseen for the next five years, so that a consolidated bid could be sent to NRPB.

9. [REDACTED] said that because the NRPB were required to commit resources to work for [REDACTED], [REDACTED] had suggested an annual meeting between the two parties to review their programme of activity. The first of these meetings would be held before Christmas.

10. THE COMMITTEE

(2) Invited [REDACTED] to report to RAPTAC on any items of interest discussed at the [REDACTED] meeting

11. It was agreed that [REDACTED] invitation to RAPTAC members to visit the [REDACTED] provided a good opportunity to strengthen links with the Board, and that January would be a suitable time. A meeting of a restricted number of people in the morning followed by a larger afternoon session would allow MOD to gain most benefit from the visit.

12. THE COMMITTEE

(3) Invited THE CHAIRMAN to arrange for a MOD group to visit [REDACTED] in the New Year.

V HSE ARRANGEMENTS FOR INSPECTION OF PREMISES (RAPTAC 28/79)

13. THE CHAIRMAN said that RAPTAC 28/79 gave the essentials of an HSE circular which suggested that considerable changes in inspection arrangements were likely, particularly in the [REDACTED] nuclear area. Discussions with representatives of the Navy had taken place, and ACSA(N) had now called a meeting of the interested parties on 8 November 1979 to consider the problems facing the Navy. One possibility would be a MOD/HSE agreement to cover inspection arrangements in the Naval nuclear area, on similar lines to that which already existed for Aldermaston, Burghfield and Cardiff. The "ABC" agreement concentrated almost entirely on security arrangements but it had led to close consultation between the parties and the establishment of a good working relationship. In the forthcoming discussions explosives safety as well as radiation health and safety would require consideration.

14. [REDACTED] said that the situation was less clear than RAPTAC 28/79 suggested because of recent organisational changes within HSE. He felt that setting out MOD's views at this point would be useful and timely. At present there were no enclaves in existence or proposed at [REDACTED].

15. THE COMMITTEE

(4) took note of the forthcoming meeting on MOD/HSE relations in the Naval nuclear area.

VI DRAFT EURATOM DIRECTIVE ON IONIZING RADIATION (RAPTAC 41/79)

16. THE CHAIRMAN said that the most recent version of this Directive had been circulated as RAPTAC 41/79. A further paper listing proposed minor alterations to the draft and enclosing a report of an EEC sub-group meeting on 17/18 September was being issued as RAPTAC 47/79.

17. In response to a question on the timetable for the related United Kingdom legislation, [REDACTED] said that the aim was to publish a consultative document in Spring 1980, to be followed by the issue of regulations in 1981 with an implementation date of July 1982. Guidance notes on non-controversial items, already at an advanced drafting stage, might be issued in advance of the regulations. The EEC Directive was expected to be finalised by December 1979.

VII REDUCTION OF DOSE LIMITS (RAPTAC 27/79 and 36/79)

18. THE CHAIRMAN said that the TUC's Memorandum of Evidence on the Joint Consultative Document on Ionizing Radiation had proposed, amongst other things that the annual dose equivalent should be reduced to 1 rem. The TUC proposals were being discussed by a HSC Technical Working Party on Radiological Protection which involved CBI and TUC representatives and for which HSE provided the Secretariat. [REDACTED] was the only important nuclear organization represented directly on the Working Party. MOD was one of the main bodies which would be seriously affected by the proposals, but its views could only be conveyed to the Working Party indirectly. The Navy Department's views had already been forwarded to HSE but MOD's definitive response, to be put before the Working Party, was required by 30 October.

19. [REDACTED] stressed that the time allowed for comment was unreasonable, given the need to take ICRP 26 and effective dose concepts into account. At [REDACTED] half the workforce received a whole-body dose greater than [REDACTED] from external radiation in spite of improved conditions. This was likely to increase as the nuclear programme progressed, with the use of larger quantities of nuclear materials and the introduction of long-irradiated plutonium. There was little prospect of providing sufficient manpower to enable staff to be rotated and thus to reduce individual doses; in any case this would increase the collective dose. [REDACTED] had considered the possibility of introducing a lifetime total dose, but a level of less than 3 rems per annum (150 rem total dose) was unlikely to be achieved. The optimum level in reducing dose had already been reached in some cases, and further major improvements were unlikely in the foreseeable future. Consequently, a reduction in dose to below [REDACTED] would create serious problems.

20. In discussion the following points were made:

a. HSE appeared to be pushing quantitative monitoring of ALARA as a concession to the TUC view. This could result in the ALARA principle being neglected in the case of small doses because so much attention would be concentrated at the [REDACTED] and above.

b. The future introduction of PWRs should be borne in mind when the TUC proposals were considered. The imposition of a 1 rem limit could make their operation impossible. The other effect of the TUC's proposals would be to cause workers receiving a dose of [REDACTED] to consider themselves (wrongly) as being at high risk.

c. The TUC Memorandum included a statement that 'the 5 rem standard of yearly exposure for exposed workers is no longer tenable in the light of recent medical and scientific research reports concerning ionizing radiations'. The reports referred to had now been discredited. [REDACTED] said that he had attended a recent meeting where [REDACTED] and others had argued that ICRP was wrong and that people suffering from certain diseases could be predisposed to the effects of radiation. They had been strongly supported by [REDACTED]. Their work was recognized in the United States where money was being spent on follow-up studies, but an ICRP review of [REDACTED] work had demolished her reasoning completely.

d. D/AWRE had received a letter from the Director of NRPB expressing concern that MOD's views were not being put before the HSC Working Party and asking him to ensure that these points were made. [REDACTED] said that the consultative commissions set up under the Health and Safety at Work Act were intended to provide a balance between the TUC and the CBI. MOD was regarded as a government body with a legislative interest, and not as a major employer of radiation workers.

21. In discussion of the MOD response to the TUC memorandum it was agreed that direct representation on the Working Party could be counterproductive and that a detailed written submission at a high level was likely to be more effective. HSE was obliged to submit to the Working Party evidence put forward by Departments not represented; the best course would be to use the machinery properly and ensure that the full written evidence, and not a HSE summary, was submitted. [REDACTED] was concerned that action should also be taken at a political level before it was too late: a decision on the form of the United Kingdom legislation was imminent. The meeting agreed that, since Ministers had not been involved so far, action should be taken at a high official level first. If this failed it would be necessary to bring in the Secretary of State.

22. THE COMMITTEE

(5) Invited the Chairman, in conjunction with [REDACTED], [REDACTED] and [REDACTED], to produce a draft letter to be sent by 2nd FUS to the Working Party setting out MOD's objections to the TUC proposals.

VIII DEFENCE CALIBRATION AND METROLOGY COMMITTEE -
WORKING PARTY ON NUCLEONIC ASPECTS (RAPTAC 33/79)

23. THE COMMITTEE

(6) Took note of RAPTAC 33/79.

IX HEALTH PHYSICS - RECRUITMENT AND STRUCTURE

24. THE CHAIRMAN reminded members that the last meeting had agreed that a draft letter should be prepared for DCA(PN) to send to 2nd PUS, drawing attention to the Committee's concern at deficiencies in posts, staffing and training in the Health Physics area. Following comments from those members particularly concerned, a second draft had now been circulated for final clearance by 9 November. [REDACTED] said that [REDACTED] and [REDACTED] were happy with the revised version.

X SI UNITS

25. THE CHAIRMAN said that, following a meeting on 1 August 1979, a draft DCI on the introduction of SI units had been produced by [REDACTED] and would be circulated to members for comment. In reply to a question from [REDACTED] [REDACTED] said that the United Kingdom had accepted an EEC Directive to proceed with the introduction of SI units.

XI REPORTING ARRANGEMENTS FOR INCIDENTS INVOLVING RADIOACTIVE MATERIALS (RAPTAC 37/79)

26. THE CHAIRMAN said that extracts from a DS2 paper on this subject had been circulated because they provided a useful summary of current arrangements. [REDACTED] said that the reporting procedures outlined failed to cover dangerous occurrences which did not result in radioactive contamination. [REDACTED] said that [REDACTED] reported any incident likely to attract public attention to MOD; a formal requirement for such reporting was about to be included in BR 3020. [REDACTED] confirmed that a similar procedure was followed by [REDACTED].

27. THE COMMITTEE

(7) Took note of RAPTAC 37/79

XII REMINDER TO MOD STAFF OF THE IMPORTANCE OF NUCLEAR AND RADIOLOGICAL SAFETY (RAPTAC 40/79)

28. THE CHAIRMAN said that, following a recent incident, the Secretary of State had endorsed the need for all concerned to be reminded of the importance of giving constant and detailed attention to radiological safety within MOD. As a result a draft Notice to Directors and Heads of Divisions had been circulated as RAPTAC 40/79. In discussion it was agreed that an additional paragraph spelling out the ALARA principle should be included, and that the message needed wider publication than a NDHD would allow.

29. THE COMMITTEE

(8) Invited [REDACTED] to provide a suitable form of words for a paragraph on ALARA.

(9) Instructed the Secretary to arrange for the notice to be published as a DCI.

XIII REVIEW OF IAEA REGULATIONS FOR THE SAFE TRANSPORT OF DANGEROUS GOODS (RAPTAC 15/79 and 22/79)

30. THE CHAIRMAN invited [REDACTED] to report on the last meeting of the Working Party on the Transport of Dangerous Goods, [REDACTED] said that the situation was confused. The IAEA intended to reconvene the Committee of Experts on Transport to review the regulations for the safe transport of radioactive materials. A preliminary meeting had been held in Vienna at which proposals for fundamental changes had been put forward. It was therefore essential that MOD kept itself informed of what was happening.

31. It was agreed that MOD representation on the Working Party on the Transport of Dangerous Goods needed to be regularized to ensure that MOD's interest in radioactive materials was properly covered.

32. THE COMMITTEE

(10) Invited [REDACTED] and [REDACTED], who had the major interest, to nominate a representative from their respective areas to be an active member of the Working Party and report back to RAPTAC.

XIV RAPTAC's RESPONSIBILITIES FOR NON-IONIZING RADIATION (RAPTAC 42/79)

33. THE CHAIRMAN said that recent discussions within the Health and Safety organization had called into question MOD's arrangements for dealing with radiation hazards and non-ionizing radiation including lasers. The problem had been set out in RAPTAC 42/79. Although RAPTAC's terms of reference included lasers, he wondered whether the Committee was competent to deal with non-ionizing radiation and whether there was a case for limiting RAPTAC's responsibilities to ionizing radiation.

34. [REDACTED] said that the Health and Safety Executive and the NRPB had established methods of dealing with protective measures for electromagnetic radiation and lasers, and they sought the help of expert groups in MOD, such as IAM and SRDE, when necessary. Lasers were a specialist subject, and the Ordnance Board's committee did not have sufficient expertise to assume complete responsibility for safety questions. Because similar expertise was needed for both ionizing and non-ionizing radiations it was convenient to lump the two subjects together, but he accepted that there was a need for rationalization. Until that took place, however, RAPTAC should continue to be responsible for lasers. [REDACTED] agreed that RAPTAC was the only body capable of acting as a focal point for questions on lasers at present.

35. THE CHAIRMAN

(11) Invited members to forward any comments on RAPTAC 42/79 to the Secretaries by 5 November.

XV PROPOSAL TO USE YELLOW PLASTIC FOR WRAPPING RADIOACTIVE ITEMS

36. [REDACTED] said that the United States reserved the use of yellow plastic for wrapping radioactive materials. He suggested that RAPTAC should endorse a proposal to introduce a similar practice in the Ministry of Defence to improve identification of radioactive items.

37. [REDACTED] said that there would be merit in using yellow plastic wherever possible, but [REDACTED] needed to continue to use clear plastic in certain circumstances, to permit viewing and for safety reasons. There was also a problem of leaching with yellow plastic. [REDACTED] added that because of the fire risk plastic was being replaced by nylon in nuclear submarine refitting.

38. THE COMMITTEE

(12) Agreed that it could not make a general recommendation that yellow plastic should be used and that the proposal should not be pursued.

XVI ARMY DEPARTMENT RADIATION HEALTH AND SAFETY COMMITTEE
(DCI Civ 316/79)

39. THE CHAIRMAN said that it had been suggested that [REDACTED] should be a member of this Committee. [REDACTED] said that [REDACTED] had agreed to send an appropriate representative to meetings of the Committee. [REDACTED] said that the Committee intended to use RAPTAC as a professional advisory body.

40. THE COMMITTEE

(13) Took note of DCI Civ 316/79

(14) Supported the suggestion that [REDACTED] should be a member of the Army Department Radiation Health and Safety Committee.

XVII OTHER PAPERS ISSUED SINCE LAST MEETING

41. A list of papers issued since the last meeting (RAPTAC 14/79 - RAPTAC 47/79) was before members.
[REDACTED]

42. THE COMMITTEE

(15) Took note.

43. [REDACTED] said that EEC symposia were not included in the list circulated as RAPTAC 38/79. He felt that someone should be responsible for providing details of conferences which were of interest to MOD. THE CHAIRMAN said that the information circulated had come from various sources, but the Secretariat did not have the resources to do its own research or to provide a library service. [REDACTED] said that he was trying to obtain information on Health Physics conferences for a paper he was preparing; he would send the list to the Secretaries in due course.

XVIII ANY OTHER BUSINESS

Revision of Joint Service Manual of Movements

44. [REDACTED] asked whether anyone was aware of a new JSP on the transport of radioactive materials which Q Movements were preparing. [REDACTED] said that this was JSP 327, Vol 2, the Joint Service Manual of Movements. Chapter 8, on the transport of Dangerous Goods was being rewritten to include radioactive materials. He doubted whether anyone in Q Mov had the expertise to deal with this complicated subject.

45. THE COMMITTEE

(16) Instructed the Secretary to obtain copies of the relevant section and circulate them to appropriate RAPTAC members.

Non-lethal Effects of Ionizing Radiation

46. [REDACTED] advised the Committee that an ICRP meeting which he had attended had expressed concern about the non-lethal effects of ionizing radiation on the skin, which could bring industry into disrepute. He was conducting a survey to find organizations whose workers received more than 1 sievert skin dose (100 rem whole body dose) in a lifetime.

Date of next meeting

47. It was agreed that the next meeting should be held in the second half of April and that 29 April was likely to be a suitable date.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]