

*R. Browning*

ORGANISATION FOR ECONOMIC  
CO-OPERATION AND DEVELOPMENT

RESTRICTED

Paris, drafted: 25th May 1988

NUCLEAR ENERGY AGENCY

distr.: 3rd June 1988

SEN/RWM(88)7

Or. English

STEERING COMMITTEE FOR NUCLEAR ENERGY

RADIOACTIVE WASTE MANAGEMENT COMMITTEE

SUMMARY RECORD OF THE NINETEENTH SESSION  
Paris, 29th-31st March 1988

Item 1: Opening of the meeting

1. The meeting was opened by Dr. Rometsch, Chairman of the Committee, who welcomed the following new members and participants:

Mr. Barbreau (France)  
Mr. Nakamura (Japan)  
Dr. McCombie (Switzerland)  
Mr. Bernero (United States)  
Mr. Clark (United States)  
Dr. Galson (United States)  
Ms. Poirot (NEA Data Bank)  
Mr. Parneix (NEA Secretariat, Consultant)  
Mr. Wiktorsson (NEA Secretariat, Consultant)

2. Apologies for absence had been received from:

Dr. Detilleux (Belgium), replaced by Mr. Heremans  
Dr. Dejonghe (Belgium)  
Mr. Bragg (Canada)  
Mr. Geipel (Fed. Rep. of Germany)  
Mr. Rothemeyer (Fed. Rep. of Germany)  
Mrs. Piermattei (Italy), replaced by Mr. Mancioffi

12572

8806100299 880525  
PDR WASTE  
WM-1

DCR

*42.2.1  
WM-1  
NHOI/1*

Dr. Snihs (Sweden), replaced by Mr. Boge  
 Dr. Niederer (Switzerland), replaced by Dr. Zurkinden  
 Mr. Goksel (Turkey)  
 Mr. Clelland (United Kingdom)  
 Mr. Girardi (CEC).

3. A list of participants is provided in Annex I.

Item 2: Adoption of the Agenda [SEN/RWM(88)1]

4. The Chairman noted that the three priority areas of the NEA waste management programme, namely performance assessment, in-situ research and investigations and general policy issues, formed the basic structure of the agenda. The agenda was adopted as proposed.

5. The Chairman also noted several developments in waste management in Member countries which could be of interest to discussions of the Committee, including the recent amendment to the high-level waste disposal law in the United States, the Transnuklear-Mol affair and the near-completion of the SFR waste disposal facility in Sweden.

Item 3: Approval of the Summary Record of the Eighteenth Session held on 11th and 12th June 1987 [SEN/RWM(87)8]

6. The Chairman noted that no written comments on SEN/RWM(87)8 had been received by the Secretariat prior to the meeting. Mr. Isaacs (United States) requested that the second last sentence on page 6 be amended to read, "On the basis of the results, it had been concluded that the seabed option continues to show promise of safe performance and, although at a less developed stage of understanding, may compare favourably with the technical performance of land-based options." The summary record, thus amended, was approved.

Item 4: Report on Activities of the OECD and NEA of interest to the Committee [SEN/RWM(88)3]

7. Mr. Strohl discussed the NEA programme of work and budget for 1988. He noted that, following discussions by the Steering Committee for Nuclear Energy and the OECD Council, it had been decided that the 1988 programme of work would be based on the 1986 budget plus a small increment in resources. The necessary budget savings implied that programme activities related to CRESP and Subseabed Disposal would be slowed down in 1988. The Steering Committee had also indicated that activities in the field of radioactive waste management should continue to be given high priority. Mr. Strohl noted that an ad-hoc Working Group established by the Steering Committee had met in February to review problems related to the proposed re-organisation of the NEA Data Bank to provide increased computer services in support of activities in the nuclear safety and waste management programmes. The report of the Working Group's meeting, including proposals for re-organisation, would be considered by the Steering Committee in April 1988. In the meantime, Data Bank countries have accepted a transitional arrangement whereby they would continue to support the cost of computer services in 1988.

8. Ms. Cheghikian presented a report on the NEA programme activities of interest to the Committee. The Committee on the Safety of Nuclear Installations (CSNI) had reviewed its priorities to place emphasis on two main work areas: feedback from operational experience, and prevention and management of accidents. The Committee on Radiation Protection and Public Health (CRPPH) had been very active in addressing Chernobyl-related issues, including review of intervention levels and of emergency planning practices and criteria. As well, other activities related to nuclear development and legal aspects were noted. The Committee noted the activities of the various NEA Committees, as well as the administrative and budgetary matters.

Item 5: Subsidiary Bodies of the RWMC [SEN/RWM(88)2]

9. Mr. Olivier introduced SEN/RWM(88)2 which had been prepared by the Secretariat on the basis of an initiative by the Executive Committee of the OECD to examine the justification for subsidiary bodies of the Organisation. The document outlined the mandate for the subsidiary bodies of the RWMC, including the Performance Assessment Advisory Group (PAAG), the Advisory Group on In-Situ Research and Investigations for Geological Disposal (ISAG), the User Group for Probabilistic Systems Assessment Codes for Radioactive Waste Management (PSAC) and the Expert Group on Geochemical Modelling and Data (GGMD). The Committee noted full support for the subsidiary bodies and agreed to the justification proposed for maintaining them, for subsequent transmission to the Steering Committee for Nuclear Energy and the Executive Committee of the OECD.

PERFORMANCE ASSESSMENT MATTERS

Item 6: Report from the Third Meeting of the Performance Assessment Advisory Group (PAAG) (25-27 January 1988) [SEN/RWM(88)4]

10. Mr. Papp, Chairman of PAAG, presented an overview of the Group's activities in the field of performance assessment, noting present priorities and planned initiatives. In particular, he noted the high priority given to study of scenario identification and selection, efforts to evaluate and further develop models used in performance assessment, the need to develop quality controlled databases for use in assessing uncertainties and confidence in safety predictions, and the need for good co-operation and interaction between different groups, countries and scientific disciplines. In the general discussion which followed, the Committee supported the activities of PAAG focussed on addressing relevant technical issues of performance assessment, but advised that issues of a non-technical nature, such as the acceptability of disposal practices and the question of retrievability, would best be left to review by the Committee.

11. Following the general discussion on the work of PAAG, Mr. Thegerström reported on specific aspects of PAAG's programme and related projects. These included: i) progress of the Working Group on the Identification and Selection of Scenarios [RWM/DOC(88)1]; ii) the establishment of the Alligator Rivers Natural Analogue Project; iii) discussion of the conclusions from the NEA Workshop on Near-field Assessment of Low- and Medium-Level Waste Repositories [RWM/DOC(88)10]; iv) an update on the SKI HYDROCOIN and INTRAVAL Projects; v) a progress report on the User Group for Probabilistic Systems

Assessment Codes (PSAC) [RWM/DOC(88)2]; and vi) preparation of an International Symposium on Safety Assessment of Radioactive Waste Repositories, to be held in September or October 1989 and to be jointly sponsored by the NEA, IAEA and CEC [RWM/DOC(88)3].

12. The following principal decisions on the programme of activities of PAAG were taken:

- i) The Committee noted progress and developments in the Working Group on Scenario Identification and Selection, the HYDROCOIN and INTRAVAL Projects, and the Alligator Rivers Natural Analogue Project.
- ii) With respect to the recommendations arising from the Workshop on Near-Field Assessment of Low- and Medium-Level Waste Repositories, the Committee approved the proposal to organise a workshop on human intrusion at waste disposal sites, and approved the proposal to convene a small consultant group under the direction of GGMD to examine uncertainties in experimental sorption data for particular radionuclides. Some reservations were expressed about the usefulness of addressing the third recommendation from the Workshop, namely the characterisation of nuclide inventories and waste forms for low- and medium-level waste. However, the Committee agreed with the approach of initially preparing and distributing a questionnaire to collect further information and to determine in more detail the feasibility of undertaking initiatives in this area.
- iii) The Committee noted progress and developments in the PSAC programme. Dr. Galson (United States) noted that the US Nuclear Regulatory Commission (NRC) wished to be represented formally in PSAC.
- iv) The Committee approved plans to prepare an International Symposium on Safety Assessment of Radioactive Waste Repositories, to be held in the Fall of 1989 and to be organised jointly with the IAEA and the CEC. Mr. Bernero (United States) noted that the American Nuclear Society (ANS) would be organising a meeting on probabilistic safety assessment in April 1989, and that he would provide the NEA Secretariat with further details about the ANS Symposium.

Item 7: Report from the First Meeting of the Expert Group on Geochemical Modelling and Data (GGMD) (8-10 March 1988) [SEN/RWM(88)5]

13. Mr. Rügger reported on the discussions held at the first meeting of the Geochemical Group which will supervise the progress of the NEA work in the field of thermochemical and sorption databases and related topics. This group has replaced the former ISIRS Executive Committee. Mr. Rügger informed the Committee of developments in updating and transferring the ISIRS database to a new, PC-compatible database, called the Sorption Data Base (SDB). Ms. Poirot outlined progress in the development of the Thermochemical Data Base (TDB). Thermodynamic constants for the key elements in performance assessment, as required by chemical speciation codes such as PHREEQE, MINEQL and EQ3/6, are

being collected and carefully assessed by specialist review teams. Ms. Poirot noted that the uranium review would be completed by the end of 1988, and those for americium and technetium by the end of 1989. The Committee noted with interest the developments related to the geochemical databases.

#### IN-SITU RESEARCH MATTERS

##### Item 8: Recent Developments in the Programme of the Advisory Group on In-Situ Research and Investigations (ISAG) [SEN/RWM(87)10]

14. Mr. Chamney presented an overview of activities and future plans of ISAG, including: i) publication of a status report on In-Situ Research and Investigations in OECD Countries [RWM/DOC(88)4]; ii) organisation of a technical Workshop on Excavation Responses in Geological Repositories, to be held in Winnipeg, Canada on 26-28 April 1988; iii) preparation of a technical Workshop on Backfilling and Sealing of Radioactive Waste Repositories, to be jointly sponsored by the NEA and the CEC and to be held in the Federal Republic of Germany in May or June 1989; and iv) progress of a Consultant Group examining possible initiatives to enhance interaction between in-situ research and investigations and model development. He noted that these activities, and a preliminary review of technical issues relevant to processes of site characterisation, would be discussed at the fourth meeting of ISAG, to be held in May 1988 in Washington, D.C., United States.

15. The following principal decisions on the programme of activities of ISAG were taken:

- i) The Committee approved the publication of the ISAG status report on In-Situ Research and Investigations in OECD Countries, subject to minor revisions to be provided to the Secretariat by mid-April 1988.
- ii) The Committee took note of the upcoming Workshop on Excavation Responses in Geological Repositories, and approved the proposal to organise a workshop on backfilling and sealing of radioactive waste repositories in May or June of 1989.
- iii) The Committee noted developments in ISAG related to examining ways to enhance interaction between in-situ research and investigations and model development, and supported efforts to ensure interaction, where applicable, with PAAG.

##### Item 9: International Stripa Project [RWM/DOC(88)5]

16. Mr. Chamney outlined recent progress within the International Stripa Project. Phase II activities have been finished, and the first year of the 5-year Phase III programme has been completed. A proposal has also been made to establish a Task Force Group for Fracture Flow Modelling, to co-ordinate the modelling activities being conducted using data generated from the Stripa Project. The Committee noted progress in the Project.

## GENERAL POLICY ISSUES AND OTHER MATTERS

Item 10: Follow-up of the US Proposal for the Preparation of Status Reports on National Waste Disposal Programmesa) Conclusions and Proposals from the Small Consultant Group on the Preparation of Status Reports [RWM/DOC(88)6]

17. Mr. Olivier outlined the conclusions of the Consultant Group which had met in January 1988 to discuss the US proposal, and introduced the proposal for all Member countries with nuclear power programmes to prepare status reports describing their national programmes, as well as background information on administrative and regulatory aspects. He noted that draft examples of such status reports from the five countries represented in the Consultant Group (France, Federal Republic of Germany, Sweden, Switzerland, United States), as well as a suggested format for preparation of the status reports, were provided in RWM/DOC(88)6.

18. In the discussions that followed, general support for such an initiative was expressed by all countries having nuclear power programmes. The Committee agreed to the preparation and submission to the NEA Secretariat of individual status reports by the end of June 1988. Subsequently, the Secretariat will edit and compile the reports to harmonise presentation to the extent possible, and distribute the compilation to RWMC members as a restricted document prior to September 1988. Responsibility for the use of the information will be left to the RWMC members.

b) Proposal for a Possible RWMC Appraisal of the Geological Disposal Concept [RWM/DOC(88)7]

19. Mr. Olivier introduced the proposal for the RWMC appraisal, which had arisen from a proposal by the Consultant Group mentioned in Item 10.a) above for the RWMC to issue a statement supporting the concept of geologic disposal. Mr. Olivier noted that it would be useful to release the appraisal in conjunction with the forthcoming ISAG publication of the status report on in-situ research and investigations [RWM/DOC(88)4], which addresses the role on in-situ investigations in enhancing confidence in the geological disposal concept.

20. The Committee agreed with the utility of such statements, and approved in principle the publication of the appraisal of the geological disposal concept. Several revisions to the text of the appraisal were proposed, and the Committee agreed that the Secretariat would provide a revised version to the RWMC within two weeks for comments, and that the appraisal would be finalized before the end of April. The Committee also agreed to publish the appraisal as a preface to the ISAG status report on In-Situ Research and Investigations in OECD Countries, and to prepare a suitably modified version for publication in a press release, the Nuclear Waste Bulletin and the NEA Newsletter.

21. During the discussion on the appraisal, questions were raised on the possible need or usefulness of updating the 1985 "Collective Opinion" [OECD/NEA, 1985. Technical appraisal of the current situation in the field of

radioactive waste management. A collective opinion by the Radioactive Waste Management Committee]. The Committee agreed that the Bureau and the Secretariat would prepare a proposal for such an update in late 1989 or early 1990. Following a suggestion forwarded by Mr. Hancox (Canada), who referred to the publication made a few years earlier by the International Council on Scientific Union (ICSU) on the subject of geological disposal, it was agreed that the Secretariat would informally contact ICSU to enquire about their possible plans for a new ICSU report on this issue.

Item 11: NEA Co-Ordinated Research Programme on Seabed Disposal of High-Level and Long-Lived Waste

a) Publication of the Concept Assessment Report [RWM/DOC(88)8]

22. Mr. Olivier recalled that the Committee had agreed to refer the task of finalising the report on the safety and feasibility of the seabed concept and supervising its publication to the Executive Committee of the Seabed Working Group. This concerned mainly the publication of the Overview volume, summarizing the research conducted to-date and the conclusions of the feasibility assessment. The other seven volumes are devoted to more specific technical and scientific work conducted by the various Task Groups. Some discussion occurred on the need to place the results of the seabed concept assessment in perspective, particularly with regards to land-based disposal options which appear to be more advanced technically and which have a higher level of priority for research and investigations. The Committee approved the publication of the report, subject to minor editorial revisions to be made by the Secretariat.

b) Future of the Seabed Programme [SEN/RWM(87)9]

23. Mr. Olivier commented on the possible future seabed research programme to be conducted following the publication of the Seabed Concept Assessment Report. He noted that most delegates in the Executive Committee of the Seabed Working Group had indicated a wish to continue co-operation, in some cases only at the management level to follow developments, but in others to study topics recommended by the assessment report, for example, during the joint cruises planned for 1989 and 1990 by France, Italy and Japan. Funding for further research in most countries would, however, remain restricted. Similar viewpoints were expressed by Members of the Committee. Since it was considered too premature to evaluate future prospects, even with recognition of recent developments such as the establishment of an Office of Sub-Seabed Disposal Research (OSDR) within the US DOE Office of Energy Research, the Committee agreed that interest for development of a new programme would be reviewed at the next meeting of the Committee.

Item 12: Decommissioning: Progress within the International Programme on Information Exchange [RWM/DOC(88)9]

24. Dr. Ilari informed the Committee of recent developments within the NEA decommissioning programme, including the addition of two projects: Eurochemic (Belgium) and NPD (Canada). Mr. Menon, Programme Co-ordinator, presented the Second Annual Report (1987) to the Committee, outlining the participants,

projects and administration of the programme. The Committee noted progress in the programme, and agreed to the submission of the Second Annual Report to the Steering Committee for Nuclear Energy.

Item 13: Radiation Protection Aspects of Radioactive Waste Management

a) Progress Report on Rules for Exemption from Regulatory Control

25. Dr. Ilari informed the Committee of the results of the joint NEA/IAEA meeting on exemption rules held in Vienna on 21-25 March 1988. He noted that considerable progress had been made in developing a realistic and flexible approach to the exemption of practices or sources from regulatory control. It had been agreed at the meeting that the basic criteria for exemption are that the particular practice or source should produce a "trivial" risk to the individuals of a critical group, and that an assessment of optimisation of radiological protection, taking into consideration the collective detriment to the population and the cost of regulating the practice or source, should indicate that exemption is the optimum option. It had been concluded that an individual dose of tens of microsieverts in a year could be considered by regulatory authorities as corresponding to a "trivial" risk. It had also been agreed that, if preliminary estimates of collective dose were less than about 1 mansievert committed per year of practice, exemption would be appropriate. For higher values of collective dose, an optimisation assessment would be necessary to examine if exemption was the optimum option. Dr. Ilari noted that significant progress towards achieving a practicable approach to exemption had been made by establishing clear definitions of the concepts of "practice" and "source" for the purposes of exemption. The Committee noted the progress made in this area.

b) Conclusions of the joint CRPPH/CSNI/RWMC Ad-Hoc Meeting on the Optimisation of Protection in Regulation and Operational Practices (March 1988, Paris)

26. Dr. Ilari informed the Committee of the results of the meeting on optimisation, noting that participants had attended from the fields of radiological protection, nuclear safety and waste management. The proceedings of the meeting will be distributed to the RWMC within a few months. Mr. Papp, who had participated in the meeting, also presented his views on the results of the meeting, noting that waste management issues are such that there are some difficulties in practical application of an optimisation process, but that gradual adaptation of such decision-aiding techniques to waste management could be useful in clarifying uncertainties and assisting in structuring decisions. The Committee noted the results of the meeting.

Item 14: NEA Nuclear Waste Bulletin

27. Mr. Chamney informed the Committee of the preparation and distribution of the two editions of the Bulletin published to-date. The Committee noted the usefulness of the Bulletin in communicating relevant information on RWMC programme activities; and agreed that its publication should be continued. The Committee agreed that the Secretariat would distribute to each member of the RWMC a distribution list for their respective countries.

## RECENT DEVELOPMENTS IN MEMBER COUNTRIES

### Item 15: Presentation of National and International Activities

28. Participants provided summaries of developments in waste management in their respective country or organisation since the last RWMC meeting. A list of the written contributions is provided in Annex II.

## OTHER MATTERS

### Item 16: Date of Next Meeting

29. The Committee agreed that the next meeting would be held 24-25 January 1989, starting at 10.00 hours on the first day.

### Item 17: Other Business

30. The Chairman extended the warm thanks of the Committee to Mr. Hirling (IAEA), who was attending for the last time, for his excellent co-operation over the years, and wished him a happy retirement.

31. Mr. Cooley (United States) expressed his appreciation to the Secretariat and the Chairman for the organisation of a very productive meeting.

ANNEX I

NINETEENTH SESSION OF THE  
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

29th-31st March 1988

List of Participants

Australia

Dr. R. ROWETSCH (Chairman)

Dr. P. MOORE  
Counsellor (Atomic Energy)  
Australian High Commission  
Strand  
London WC2B 4LA  
United Kingdom

Tel: 44 (1) 438 8759  
Tlx: 27565  
Fax: 44 (1) 240 5333

Austria

Dr. P. KREJSA  
Head, Waste Management  
Osterreichisches Forschungszentrum Seibersdorf  
A-2444 Seibersdorf

Tel: 43 (2254) 80/2650  
Tlx: 14353  
Fax: 61-322 2545 = FZS

Belgium

Mr. R. HEREMANS  
Organisme National des Déchets  
Radioactifs et des Matières Fissiles  
ONDRAF/NIRAS  
Place Madou 1  
Boîtes 24/25  
B-1030 Brussels

Tel: 32 (2) .....  
Tlx: 65784 NIROND  
Fax: 32 (2) 218 51 65

Mr. J.M. LAMBOTTE  
Ministère de la Santé Publique et de  
l'Environnement  
Service de Protection contre les  
Radiations Ionisantes  
Cité Administrative de l'Etat  
Quartier Vésale 2-3/24  
B-1010 Brussels

Tel: 32 (2) 210 4978/4966  
Tlx: 21034 RADIST B.  
Fax: 32 (2) 210 4967

Canada

Dr. W.T. HANCOX  
Vice-President for Waste Management  
Atomic Energy of Canada Limited (AECL)  
Whiteshell Nuclear Research Establishment  
Pinawa, Manitoba ROE 1L0

Tel: 1 (204) 753 2685  
Tlx: 757553  
Fax: 1 (204) 753 8404

Finland

Mr. H. KOPONEN  
Acting Deputy Head of the Department of  
Nuclear Safety  
Finnish Centre for Radiation and Nuclear Safety  
P.O. Box 268  
SF-00101 Helsinki 10

Tel: 358 (0) 70821  
Tlx: 122691 STUK SF  
Fax: 358 (0) 70 82210

Dr. S. VUORI  
Nuclear Engineering Laboratory  
Technical Research Centre of Finland  
P.O. Box 169  
SF-00181 Helsinki

Tel: 358 (0) 648931  
Tlx: 122972 vttha SF  
Fax: 358 (0) 603626

France

Mr. A. BARBREAU  
Commissariat à l'Energie Atomique (CEA)  
DPT/IPSN  
B.P. N° 6  
92265 Fontenay-aux-Roses Cedex

Tel: 33 (1) 46 54 70 76  
Tlx: 204841 ENERGAT  
Fax: 33 (1) 47 35 14 23

Mr. J. LEFEVRE  
Directeur chargé des effluents et  
déchets radioactifs  
Commissariat à l'Energie Atomique (CEA)  
Centre d'Etudes Nucléaires  
B.P. No. 6  
F-92265 Fontenay-aux-Roses Cedex

Tel: 33 (1) 46 54 74 71  
Tlx: 204841  
Fax: 33 (1) 47 35 14 23

Mr. C. MORANVILLE  
Directeur général  
Agence Nationale pour la Gestion des  
Déchets Radioactifs (ANDRA)  
B.P. N° 510  
29-33, rue de la Fédération  
F-75752 Paris Cedex 15

Tel: 33 (1) 40 56 15 15  
Tlx: 205433 ANDRA  
Fax:

F.R. of Germany

Dr. M. SCHREITERER  
Minister Counsellor  
Delegation of the Federal Republic of Germany  
to the OECD  
5, rue Léonard-de-Vinci  
75116 Paris

Tel: 33 (1) 45 01 73 68

Greece

Mr. V. KARAVIAS  
Counsellor, Energy Advisor  
Greek Delegation to the OECD  
15, Villa Said  
75116 Paris

Tel: 33 (1) 45 00 08 36

Italy

Mr. A. BRONDI  
ENEA - C.R.E. Casaccia  
Casella Postale No. 2400  
I-00100 Roma A.D.

Tel: 39 (6) 3048 3171  
Tlx: 43613296 ENEACA I  
Fax: 39 (6) 3048 4203

Dr. S. MANCIOPPI  
ENEA/DISP  
Via Vitaliano Brancati 48  
I-00144 Rome

Tel: 39 (6) 8528 2846  
Tlx: 43612167  
Fax: 39 (6) 5013429

Mr. P. RISOLUTI  
Dipartimento Ciclo del Combustibile  
ENEA-Casaccia  
C.P. 2400  
I-00100 Rome

Tel: 39 (6) 3048 3133  
Tlx: 43613296 ENEACA I  
Fax: 39 (6) 30483190

Japan

Mr. K. HANADA  
Deputy Director  
Waste Isolation and Ore Processing  
Division  
Nyngyo-Toge Works  
Power Reactor and Nuclear Fuel  
Development Corporation (PNC)  
Kamisaibara-mura  
Okayama Pref.

Tel: 81 0868 44 2211  
Tlx: 26462  
Fax:

Dr. H. NAKAMURA  
Head, High Level Waste Management Laboratory  
Department of Environmental Safety Research  
Nuclear Safety Research Center  
Tokai Research Establishment  
JAERI  
Tokai-mura  
Naka-gun  
Ibaraki-ken, 319-11

Tel: 81 292 82 6008  
Tlx: 3632340 J TOKAI J  
Fax: 81 292 82 5408

Mr. T. UEKI  
Deputy Director  
Office of Radioactive Waste Management  
Nuclear Fuel Division  
Science & Technology Agency (STA)  
2-2-1 Kasumigaseki  
Chiyoda-ku  
Tokyo 100

Tel: 81 03 581 5271  
Tlx: 2226720  
Fax:

Netherlands

Mr. H. CORNELISSEN  
Ministerie van Volkshuisvesting  
Ruimtelijke Ordening en Milieubeheer  
Postbus 450  
2260 NB Leidschendam

Tel: 31 (70) 209367  
Tlx: 32362 VROM NL  
Fax: 31 (70) 279868

Mr. H.H. KORTHOF  
Ministry of Economic Affairs, Electricity  
and Nuclear Energy Branch  
Bezuidenhoutseveg 6  
Postbus 20101  
2500 EC Den Haag

Tel: 31 (70) 797849  
Tlx: 31099  
Fax: 31 (70) 474001/  
796350

Norway

Mr. G.C. CHRISTENSEN  
Head, Health and Safety Department  
Institute for Energy Technology  
P.O. Box 40  
N-2007 Kjeller

Tel: 47 (6) 81 25 60  
Tlx: 74573 energ n  
Fax: 47 (6) 81 55 53

Spain

Mr. C. MELCHES  
ENRESA  
Paseo de la Castellana 135  
28046 Madrid

Tel: 34 (1) 279 3027  
Tlx: 41429 ENRES E  
Fax: 34 (1) 279 2486

Sveden

Mr. B. BOGE  
National Institute of Radiation Protection  
Box 60204  
S-104 01 Stockholm

Tel: 46 (8) 7297100  
Tlx: 11771 SAFERAD  
Fax: 46 (8) 330831

Mr. S. NORRBY  
Swedish Nuclear Power Inspectorate  
Box 27106  
S-102 52 Stockholm

Tel: 46 (8) 6635560  
Tlx: 11961  
Fax: 46 (8) 6619086

Mr. T. PAPP  
Swedish Nuclear Fuel and Waste  
Management Company  
SKB  
Box 5864  
S-102 48 Stockholm

Tel: 46 (8) 6652800  
Tlx: 13108 SKB  
Fax: 46 (8) 6615719

Switzerland

Dr. H.P. ALDER  
Chef du Département "Energie Nucléaire"  
Paul-Scherrer Institute  
CH-5303 Würenlingen

Tel: 41 (56) 99 24 12  
Tlx: 827417 EIR CH  
Fax:

Dr. C. McCOMBIE  
Société Coopérative Nationale pour  
l'Entreposage de Déchets Radioactifs (NAGRA)  
Parkstrasse 23  
CH-5401 Baden

Tel: 41 (56) 205 511/205 220  
Tlx: 82 82 04 NAGR CH  
Fax: 0 19 41 56 20 52 07/  
20 52 12

Dr. R. ROMETSCH (Chairman)  
Société Coopérative Nationale pour  
l'Entreposage de Déchets Radioactifs (NAGRA)  
Parkstrasse 23  
CH-5401 Baden

Tel: 41 (56) 205 511/205 220  
Tlx: 82 82 04 NAGR CH  
Fax: 0 19 41 56 20 52 07/  
20 52 12

Dr. A. ZURKINDEN  
Deputy Head, Waste Management Section  
Nuclear Safety Inspectorate  
CH-5303 Würenlingen

Tel: 41 (56) 993930  
Tlx: 59058  
Fax:

United Kingdom

Dr. F.S. FEATES  
Chief Inspector of Pollution  
(Radioactive Substances)  
Department of the Environment  
Romney House  
43 Marsham Street  
London SW1P 3PY

Tel: 44 (1) 212 8804  
Tlx: 22221  
Fax: 44 (1) 212 8707

Dr. R.H. FLOWERS  
UKAEA Fuel Processing Director  
Atomic Energy Research Establishaent  
Harwell  
Didcot  
Oxfordshire OX11 0RA

Tel: 44 (235) 24141 (x.5723)  
Tlx: 83135  
Fax:

United States

Mr. R.M. BERNERO  
Deputy Director  
Office of Nuclear Material Safety and Safeguards  
Nuclear Regulatory Commission  
Washington D.C. 20555  
Tel: 1 (301) 492 3326  
Tlx: 71 0824 0412  
Fax: 1 (301) 492-0260

Dr. D.E. CLARK  
International Program Support Office  
Battelle Pacific Northern Laboratory  
Hoeben 38 a  
D-3301 Gross-Schvuelper  
Federal Republic of Germany  
Tel: 49 (531) 8012-1  
Tlx: 2767/5310228 1ft  
Fax: 49 (531) 8012-200

Mr. C. COOLEY  
Office of Civilian Radioactive Waste Management  
US Department of Energy  
Forrestal Building, RW  
Washington D.C. 20585  
Tel: 1 (202) 586 6116  
Tlx: 7108220176  
Fax: 1 (202) 586 2672

Dr. D.A. GALSOM  
Division of High-Level Waste Management  
US Nuclear Regulatory Commission  
Washington D.C. 20555  
Tel: 1 (301) 492 04 05  
Tlx: 71 0824 0412  
Fax: 1 (301) 492-0260

Mr. T.H. ISAACS  
Associate Director of the Office  
of External Relations and Policy  
Office of Civilian Radioactive  
Waste Management  
US Department of Energy  
Forrestal Building, RW  
Washington D.C. 20585  
Tel: 1 (202) 586 2277  
Tlx: 7108220176  
Fax: 1 (202) 586 8134

Mr. L.T. LAKEY  
Manager  
International Program Support Office  
Battelle Pacific Northwest Laboratory  
P.O. Box 999 A3-70  
Richland  
Washington 99352  
Tel: 1 (509) 376 0933  
Tlx: 152874

CEC

Mr. S. ORLOWSKI  
Chef de la Division Cycle du  
Combustible Nucléaire  
Commission des Communautés Européennes  
Direction générale XII  
200 rue de la Loi  
B-1049 Bruxelles  
Belgique  
Tel: 32 (2) 235 4063  
Tlx: 21877 COMEU B  
Fax: 32 (2) 236 20 06

IAEA

Mr. J. HIRLING  
Head, Waste Management Section  
Division of Nuclear Fuel Cycle  
International Atomic Energy Agency  
P.O. Box 100  
A-1400 Vienna  
Austria  
Tel: 43 (222) 23600  
Tlx: 112645  
Fax: 43 (222) 30 184

NEA Data Bank

Mlle I. POIROT  
NEA Data Bank  
Bâtiment 45  
91191 Gif-sur-Yvette Cedex  
Tel: 33 (1) 69.08.46.53  
Tlx: 690920 F NEADATA  
Fax: 33 (1) 69 41 39 65

NEA

Mr. P. STROHL  
Deputy Director General  
OECD Nuclear Energy Agency  
38, boulevard Suchet  
75016 Paris  
Tel: 33 (1) 45 24 96 50  
Tlx: 630.668  
Fax: 33 (1) 45 24 96 24

Mlle Z. CHECHIKIAN  
External Relations  
OECD Nuclear Energy Agency  
Tel: 33 (1) 45 24 96 97

NEA Secretariat

Mr. J.-P. OLIVIER  
Head, Radiation Protection and  
Waste Management Division  
OECD Nuclear Energy Agency  
38, boulevard Suchet  
75016 Paris  
Tel: 33 (1) 45 24 96 95  
Tlx: 630.668  
Fax: 33 (1) 45 24 96 24

Dr. O. ILARI  
Deputy Head, Radiation Protection and  
Waste Management Division  
Tel: 33 (1) 45 24 96 87

Mr. L. CHAMNEY  
Radiation Protection and Waste  
Management Division  
Tel: 33 (1) 45 24 96 59

Mr. J.-C. PARNEIX (Consultant)  
Radiation Protection and Waste  
Management Division  
Tel: 33 (1) 45 24 96 58

Dr. B. ROEGGER  
Radiation Protection and Waste  
Management Division  
Tel: 33 (1) 45 24 96 86

Mr. C. THEGERSTRÖM  
Radiation Protection and Waste  
Management Division  
Tel: 33 (1) 45 24 96 78

Mr. S. MENON (Consultant)  
Project Co-Ordinator  
Decommissioning Programme  
Studsвик Energiteknik AB  
S-61182 Nyköping  
Tel: 46 (155) 21 000  
Tlx: 64013  
Fax: 46 (155) 63 117

## ANNEX II

LIST OF WRITTEN CONTRIBUTIONS

- AUSTRALIA . Report on the International Alligator Rivers Analogue Project. P. Moore, Australian High Commission (London).
- BELGIUM Nuclear Waste Management in Belgium, Experience and Programme. R. Heremans, ONDRAF/NIRAS.
- CANADA Developments in the Canadian Nuclear Fuel Waste Management Program. W.T. Hancox, AECL.
- FINLAND Overview of the Finnish Radioactive Waste Management Activities. S. Vuori, VTT.
- FRANCE Recent Developments in Radioactive Waste Management in France. C. Moranville, ANDRA.  
R&D Programme français 1987. J. Lefèvre, CEA.
- ITALY Untitled. A. Brondi, ENEA.
- JAPAN Recent Development of Radioactive Waste Management in Japan. K. Hanada, PNC.
- NETHERLANDS Recent Developments in the Netherlands in the Field of Radioactive Waste. R.M. Korthof, Ministry of Economic Affairs.
- SWEDEN Untitled. S. Norrby, SKI.
- SWITZERLAND Recent Developments in Waste Management in Switzerland. C. McCombie, NAGRA.
- UNITED KINGDOM UK Research Programmes on Radioactive Management. R.H. Flowers, UK AEA/NIREX.
- UNITED STATES Recent Developments in Radioactive Waste Management in the United States (June 1987-March 1988). T.H. Isaacs, US DOE.
- CEC Activités de la CCE en matière de gestion et de stockage des déchets radioactifs, Etat actuel et faits marquants depuis juillet 1987. S. Orłowski.
- IAEA Waste Management, 1987. J. Hirling.