

ACRS-2476
PDR 3/25/87

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CERTIFIED MINUTES
DATE ISSUED: Feb. 19, 1987

SUMMARY/MINUTES OF THE MEETING
OF THE ACRS SUBCOMMITTEE ON WASTE MANAGEMENT,
DECEMBER 4-5, 1986, WASHINGTON, D. C.

Purpose:

The ACRS Subcommittee on Waste Management (WM) met on Thursday and Friday, December 4-5, 1986, at 1717 H Street, NW., Washington, D.C. to review the following pertinent nuclear waste management topics:

1. The waste management aspects of the proposed NRC Safety Research Program for FY 1988.
2. Alternatives to Shallow Land Burial (SLB) for the NRC Low-Level Radioactive Waste (LLW) Program.
3. Safety Assessment of Alternatives to Shallow Land Burial.
4. Status of the States' Implementation of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA).
5. Rulemaking to conform 10 CFR Part 60, Disposal of High-Level Radioactive Wastes in Geologic Repositories, to the Environmental Protection Agency (EPA) Standard for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes (40 CFR Part 191).

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6. Assessing Performance Compliance of the Department of Energy's (DOE's) geologic repository with the above-named EPA Standard.
7. NRC Staff review of the DOE Final Environmental Assessments (FEAs) of the five candidate high-level radioactive waste repository sites.

A list of the attachments to these minutes is provided (Attachment 1). The order of discussion of the various topics is given in the Proposed Schedule and Outline for Discussion (Attachment 2).

The meeting was open to the public except for that portion covering the review of the FEAs (Item 7 above), which was closed because of the pre-decisional nature of the subject (See Attachment 3). Mr. Owen S. Merrill was the Cognizant ACRS Staff member for the meeting. A list of documents provided to the Subcommittee and its consultants during the meeting is included in Attachment 4, and the original Attendance List is also provided (Attachment 5).

Attendees: Total - 58

ACRS Members - 5

D. Moeller
W. Kerr
C. Mark
F. Remick
P. Shewmon

ACRS Consultants - 4

J. Donoghue
D. Orth
F. Parker
M. Trifunac

NRC/NMSS - 19

M. Knapp
J. Greeves
W. Walker
J. Pearring
M. Bell
M. Dunkelmann
J. Corrado
J. Linehan
J. Shaffner
L. Pittiglio
R. Starmer

ACRS Staff - 4

O. Merrill
J. McKinley
S. Duraiswamy
S. Parry

DOE - 3

L. Regnier
R. Stein
N. Eisenberg

Public - 15

Sandia National Lab. - 1
R. Cranwell

S. Coplan
D. Fehring
J. Libert
R. Boyle
T. Mo
P. Justus
S. Wastler
N. Stablein

NRC/RES - 4

F. Costanzi
R. Grill
T. McCartin
W. Ott

NRC/OSP - 2

S. Salomon
C. Maupin

NRC/OGC - 1

J. Wolf

Meeting Highlights:

1. Safety Research Program for FY1988

The waste management aspects of the FY88 Safety Research and Technical Assistance Programs were reviewed in order to provide the WM Subcommittee with the necessary information to prepare its portion of the ACRS report to the Congress on the FY1988 NRC Safety Research Program and Budget.

Presentations were made by Dr. F. Costanzi of the NRC Office of Research (RES) on both HLW and LLW research programs, by Mr. W. Walker on HLW research needs and technical assistance programs, and by Dr. M. Knapp on LLW research needs and technical assistance programs.

Based on these presentations and discussions, the WM Subcommittee drafted comments on the Staff's Waste Management program in general, and specific comments on the HLW and the LLW programs in particular. The comments are not provided in these minutes, but were prepared for consideration in closed session by the Safety Research Program Subcommittee during its meeting on December 10, 1986, as the Waste Management portion of the ACRS' annual report to the Congress on NRC's Safety Research Program.

2. Alternatives to Shallow Land Burial -- L. Pittiglio, and J. Shaffner, NMSS/WMLU

This was primarily a status report on NRC's work on alternative disposal methods for shallow land burial. Such alternatives as below-ground vaults, above-ground vaults, earth-mounded concrete bunkers, augered hole/shaft, and mined cavities were identified and discussed as viable alternatives. Regulations for all of these alternatives except mined cavities are covered in 10 CFR 61.50, 61.51, 61.52 and 61.53. A mined cavity is sufficiently different from the other near-surface disposal options that it is not covered under these sections of Part 61, but is licensable under Section 61.23 on a case-by-cases basis.

3. Safety Assessment of Alternatives to Shallow Land Burial -- T. McCartin, RES

At the Idaho National Engineering Laboratory, EG&G Idaho, under an NRC contract, has been performing studies on the safety assessment of alternatives to shallow land burial. The studies discuss the four design components -- cover, structure, fill and container -- and evaluate the relative importance of each by the use of weighting factors. The study ignored the characteristics of the site and did not consider cracks in the vault. The study concluded that the cover was the most important design component, although D. Moeller said that he believed that the containers might more appropriately be considered most important.

4. Status of the States' Implementation of the LLRWPA of 1985 -- S. Salomon, Office of State Programs

S. Salomon presented and discussed the current status as of December 1, 1986 of the various states and compacts (groups of states) in providing for disposal of low-level radioactive wastes in accordance with the LLRWPA of 1985. He noted that many compacts have banned shallow land burial as a waste disposal option. The NRC Staff believes that this position is based on misunderstandings about shallow land burial.

Dr. Salomon said that there is talk of giving incentives to induce States to accept low-level waste (i.e., to be the compact's host state) by taxing those who generate radioactive waste and using the money raised for disposal site operations. He also said that host

states have been determined for most of the compacts and that they are meeting periodically.

During the discussion of the States' LLW programs, Mr. William Dornsife from the Department of Environmental Resources, Commonwealth of Pennsylvania, identified himself and provided the subcommittee with four draft reports for a Low-Level Radioactive Waste Disposal Facility, which they have prepared in their implementation of the LLRWPA (See Attachment 4, Item 15). The abbreviated titles of these reports are (1) Process for Siting, (2) Implementing Legislation, (3) Area Screening Criteria, and (4) Technical Performance and Design Criteria.

Mr. Dornsife also participated extensively during and following Dr. Salomon's presentation. It was very much to the benefit of both the Subcommittee and the Staff to have a representative present from a State that is approaching the implementation of the LLRWPA in a timely and commendable manner.

5. Rulemaking to Conform 10 CFR Part 60 to the EPA HLW Standard - D.
Fehringer, J. Linehan and S. Coplan, NMSS

The proposed NRC rule to conform 10 CFR Part 60 to the EPA HLW Standard for Geologic Repositories was published in the Federal Register on June 19, 1986. After the receipt and analysis of public comments, the final rule was published in the Federal Register on July 30, 1986. The rule contains proposed amendments

to eliminate inconsistencies between Part 60 and the EPA Standard (40 CFR 191).

Dr. Fehringler discussed the comments received, noting that many were on the substance of the EPA Standard rather than on NRC's proposed adoption of it. To illustrate, EPA does not require monitoring of the site after the HLW repository is closed because it could compromise the engineered barriers to intrusion. The EPA wants any intrusion with a calculated probability of occurrence of less than 10^{-8} to be dropped. Also, a difference in terminology exists between EPA and NRC -- EPA wishes to use the terminology "reasonable expectation," whereas the NRC Staff prefers "reasonable assurance" to mean the same thing. Dr. Fehringler stated, however, that "reasonable assurance" requires a higher level of confidence if non-compliance would have disastrous consequences.

6. Assessing Performance Compliance with the EPA Standard, - R.
Cranwell, SNL, and J. Libert, NMSS

The subject of assessing compliance with the EPA Standard (40 CFR 191) has been under study by a group at the Sandia National Laboratory (SNL) for some time under an NRC Contract. The results were published in October 1986 in an NRC document NUREG/CR-4510, entitled, "Assessing Compliance With the EPA High-Level Waste Standard -- An Overview." The NRC Staff has been reviewing this report in draft form since its receipt in February 1986.

Dr. Cranwell indicated that the report uses a probabilistic approach, as does the EPA Standard. The report contains development and screening of scenarios, evaluation of consequence assessment, sensitivity and uncertainty analysis, and regulatory compliance assessment, all of which lends itself to more readily assessing performance with the probabilistically-based EPA Standard. The Subcommittee concluded that Dr. Okrent would be asked to suggest someone to prepare a detailed review of this report for the ACRS.

7. NRC Staff Review of DOE's Final Environmental Assessments (FEAs) --
J. Linehan, NMSS

The portion of the meeting was closed due to the pre-decisional nature of the material being presented and discussed, hence no minutes or handouts are provided. The final NRC comments were due to the Commissioners by December 16, 1986.

NOTE: A transcript of the meeting is available in the NRC Public Document Room, 1717 H Street, NW., Washington, D.C. or can be purchased from ACE-Federal Reporters, 444 N. Capitol Street, Washington, D.C. 20001 (202) 347-3700.

ATTACHMENT 1

LIST OF ATTACHMENTS

1. List of Attachments to these minutes.
2. Proposed Schedule and Outline for Discussion (Revision 3, November 26, 1986).
3. Justification for Closing a Portion of the Waste Management Subcommittee Meeting, December 4-5, 1986.
4. List of Handouts provided to the Subcommittee members and consultants during the meeting.

(REVISION 3, NOVEMBER 26, 1986)
 PROPOSED SCHEDULE AND OUTLINE
 FOR DISCUSSION
 ACRS WASTE MANAGEMENT SUBCOMMITTEE
 ROOM 1046, 1717 H STREET, N.W., WASHINGTON, D. C.
 DECEMBER 4-5, 1986

Thursday, December 4

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|----------------------|---|---|
| 1. 8:30 - 8:45 a.m. | Opening Remarks | D. Moeller
Chairman |
| 2. 8:45 - 12:00 NOON | FY 1988 Safety Research
& Technical Assistance
Programs | RES & NMSS/DWM
Staffs |
| 3. 12:00 - 1:00 p.m. | LUNCH | |
| 4. 1:00 - 2:00 p.m. | Alternatives to SLB | L. Pittiglio, NMSS/
WMLU |
| 5. 2:00 - 3:00 p.m. | Safety Assessment of
Alternatives to SLB | F. Costanzi & T.
McCartin, RES/WMBR |
| 6. 3:00 - 3:15 p.m. | BREAK | |
| 7. 3:15 - 4:30 p.m. | States' Implementation
of LLRWPA | Frank Young,
Office of State
Programs |
| 8. 4:30 - 5:30 p.m. | EXECUTIVE SESSION | |
| 9. 5:30 p.m. | RECESS | |

Friday, December 5

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| 1. 8:30 - 8:45 a.m. | Opening Remarks | D. Moeller,
Chairman |
| 2. 8:45 - 10:00 a.m. | Rulemaking to Conform
Part 60 to EPA Standard | D. Fehringer,
NMSS/WMRP |
| 3. 10:00 - 10:15 a.m. | BREAK | |
| 4. 10:15 - 12:00 NOON | Assessing Compliance
with EPA Standard | R. Cranwell, Sandia
National Lab. |
| 5. 12:00 - 1:00 p.m. | LUNCH | |
| 6. 1:00 - 3:30 p.m. | NRC Review of DOE
FEAs (Closed Session) | J. Linehan & DWM
Staff |

ATTACHMENT 2

7. 3:30 - 3:45 p.m.

BREAK

8. 3:45 - 4:30 p.m.

EXECUTIVE SESSION

9. 4:30 p.m.

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