

CONFIDENTIAL

ACRS-1783

ISSUE DATE: 11/20/80

11/20/80

MINUTES OF THE ACRS SUBCOMMITTEE MEETING ON WASTE MANAGEMENT
WASHINGTON, DC
OCTOBER 3, 1980

The ACRS Subcommittee on Waste Management held a meeting on October 3, 1980 in Room 1046, 1717 H St., NW, Washington, D.C. The purpose of the meeting was to discuss the proposed rulemaking on the technical criteria for regulating geological disposal of high-level radioactive waste (PR-60) and the proposed rulemaking on the storage and disposal of nuclear waste (Waste Confidence Rulemaking, PR-50,51). The Subcommittee collected information on the status and schedule of these subjects in preparation for writing a future ACRS letter on waste management. Notice of this meeting was published in the Federal Register on Thursday, September 18, 1980. A copy of this notice is included as Attachment A. A list of attendees for this meeting is included as Attachment B, and the schedule for the meeting is included as Attachment C. A complete set of handouts has been included in the ACRS files. There were no written statements from the public and only one request for time to make an oral statement from the Natural Resources Defense Council. A list of all reference material for the meeting is included as Attachment D. The Designated Federal Employee for this meeting was Mr. John McKinley.

NRC Staff Presentation on Proposed Rulemaking (10 CFR 60)

Mr. Mike Bell of the NRC Staff outlined the history and schedule for the proposed rulemaking on technical criteria for geological disposal of high-level waste (10 CFR 60). The schedule is for a proposed rule to be published in the Federal Register before the end of this year. The rule will have a 90-day public comment period and will have public hearings only if the Commissioners decide it is necessary.

Mr. S. Coplan of the NRC Staff discussed the performance objectives of the proposed 10 CFR 60 rule. He stated that EPA plans to issue numerical standards for radionuclide releases to the environment which NRC will then use in evaluating waste disposal site suitability. The EPA standards are scheduled to be published in November, 1980 for public comment and debate. The general performance objectives of the NRC for geological disposal are:

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- Isolate waste in compliance with EPA standards.
- Contain waste in waste packages for at least 1,000 years.
- Limit radionuclide release from the engineered system to less than 10^{-5} /yr. of the activity present at 1,000 years.
- A ground water transport time of at least 1,000 years.
- Allow for retrievability of all waste until 50 years after emplacement.

Dr. S. Philbrick questioned the need for technical criteria on ground water since the best sites are very. Mr. L. White of the NRC Staff responded that the criteria were written so that DOE could choose the best site. Therefore, the rule sets limits for all known parameters (including ground water) such that DOE has flexibility in site selection. Additionally, Dr. Philbrick asked why so much attention is given to the temperature effect of the waste on the host rock. He stated that data from natural conditions (e.g., dikes in central New York) and coal mine fires should be sufficient to address the temperature concern. Mr. L. White answered that the existing data are useful but not sufficient since the geological disposal sites will have excavation stresses plus thermal stresses plus foreign material (i.e., the waste and waste container) which may or may not respond like the existing data suggest.

Mr. S. Cromer pointed out that the volume of waste that could be deposited in a geological disposal site would be significantly larger for reprocessed waste than for spent fuel. The reason is that with certain isotopes removed, it would take more reprocessed waste to reach the established limit of 150 kw/acre. Additionally, Mr. Coplan pointed out that it takes less time for reprocessed waste to reach the maximum mine temperature.

Mr. S. Coplan discussed the Untreated Dilution Index (a measure of toxicity) for various waste disposal. He stated that it takes approximately 10,000 years for spent fuel to decay to a toxicity level equal to that of natural uranium ore, 2,000 years for reprocessed mixed-oxide waste, and 450 years for reprocessed UO₂ waste.

Dr. D. Moeller asked if curves were being developed for air pathway releases similar to the Untreated Dilution Index used for water pathway releases. Mr. S. Coplan answered that potential human exposure is dominated by the water pathway and the air pathway releases are therefore not being analyzed.

Mr. L. White discussed the rationale for the technical criteria. He stated that each stage of the disposal project would be reviewed by the NRC. The stages include site selection, construction activities, design, waste emplacement, verification of performance, and decommissioning. The technical criteria for design of engineered features cover the major components of the design but not the individual parts of the design. Therefore, the designer has flexibility in designing the package.

DOE Presentation on Proposed Rulemaking (10 CFR 60)

Dr. C. Heath of DOE discussed the role of DOE in geological disposal of high-level waste. He stated that in 1976, the DOE budget for waste isolation was about \$5 million. Since then, it has increased to \$160 million in 1980 and \$180 million in 1981. Therefore, DOE is working much harder in this area than ever before. Dr. Heath stated that DOE agrees with the basic philosophy behind the NRC criteria but not with establishing numerical limits before more actual field work is done.

Dr. W. Carbiener of Battelle, Office of Nuclear Waste Isolation (ONWI), discussed the DOE activities related to waste isolation research and development. The schedules for completion of each stage of work are as follows:

Waste Package Final Design	April 1987
Repository Design Completed	March 1987
Initial Site Selection	March 1987
Performance Assessment PSAR Completed	January 1987

Natural Resources Defense Council (NRDC) Comments

Dr. T. Cochran of the NRDC made a public statement on the issue of waste disposal. He indicated that he liked the NRC draft criteria as a first step and that it was a vast improvement over the EPA approach. He stated that only dry sites, ones with no aquifers, should be considered. The NRC limit on groundwater should be set to force dry site selection. Dr. Cochran stated that the DOE site selection program is a disaster and all of their sites studied so far are terrible.

Dr. D. Moeller stated that he looked to the NRDC for useful input on controversial issues. However, when he read the NRDC comments on the waste confidence issue, he found them replete with errors. Dr. Moeller indicated that the reference to BEIR-I in the NRDC statement was used to serve the purpose of the critique, whereas BEIR-III, which has been out for some time, would not have served the NRDC purpose. Additionally, the NRDC statement speaks about the NRC repudiation of the WASH-1400 report even though this is a well recognized fallacy. The NRDC statement also challenged DOE for not addressing the NRC criteria in draft 10 CFR 60 even though the NRC had not issued the draft in time for DOE to address it in their public comments. Overall, Dr. Moeller stated that he was disappointed in the NRDC paper.

Dr. T. Cochran responded to Dr. Moeller's statement by saying that he has not received a copy of BEIR-III as yet and that it would be a waste of time to respond to the other comments.

NRC Staff Presentation on Waste Confidence Rulemaking (PR-50,51)

Mr. Sheldon Trubatch of the NRC Staff discussed the status of the Waste Confidence Rulemaking (PR-50,51). The public statements and cross-statements have been collected by the NRC working group on waste confidence. However, additional comments on how the proceedings might be handled are to be received by October 6, 1980. All comments will be reviewed and summarized for the Commissioners. The ACRS comments are needed before the Staff can finish summarizing the record, and therefore, the ACRS cannot be assisted by the NRC Staff in preparing comments on this issue. The Waste Confidence issue has been limited to spent fuel only, with no consideration to be given to reprocessed waste.

Concluding Comments and Statements

Mr. R. Foster stated that if the underlying basis for site acceptance is drinking water tolerance, then that should be stated clearly and emphatically. Also, too much emphasis seems to be given to meeting EPA numbers when the real concern should be risk to the population from a waste disposal site.

Dr. M. Steindler stated that the problem of waste disposal is not technical but rather the definition of the levels of uncertainty in the modeling for predictive analysis. The NRC and DOE should focus on that concern in addition to collecting data by experimentation.

Dr. S. Lawroski indicated that he would like for the NRC Staff at the next Subcommittee meeting to discuss the comparative risk of waste disposal in relation to other fuel cycle operations and reactor operation. If the risk is very low relatively, then the tolerance in uncertainty in analysis could be large. However, if the risk is high relatively, then the uncertainty would have to be carefully studied and evaluated.

Dr. D. Orth stated that the NRC Staff should remove every superlative from the proposed 10 CFR 60 rule and the rationale document. If words like best, most, least, optimize, or maximize are left in the regulation, then the licensing people will spend all of their time trying to prove to a judge what was meant by the regulation.

Mr. S. Cromer expressed a concern that disposal of spent fuel underground does not make sense. The spent fuel is a valuable and important energy source for the future. Therefore, above ground depositories would be much more practical. Additionally, reprocessed waste is easier to dispose of in underground repositories.

Mr. J. Ray expressed his opinion that the schedule of the 1987 for building a waste disposal site is unnecessarily far away. If the proper resources were applied to this problem, and work was done in parallel, the schedule could be cut materially.

Mr. W. Mathis agreed with Mr. Ray's statement. Additionally, Mr. Mathis stated that the Waste Confidence issue centers around satisfying the Commission that spent fuel can be safely handled for the next 30 years or so.

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Since spent fuel has already been stored in pools for 30 years, the question has already been answered.

A Subcommittee meeting on the Waste Confidence Rulemaking and NRC's research program on waste management was tentatively scheduled for November 13 and 14, 1980. A Subcommittee meeting on 10 CFR 60 (technical criteria for geological disposal of high-level radioactive waste) will be scheduled after the NRC Staff has issued the revised rule and published the NUREG on rationale for the rule.

The meeting was adjourned at 5:07 p.m.

Note: For additional details, a complete transcript of the meeting is available in the NRC Public Document Room, 1717 H St., NW, Washington, DC 20555 or from Alderson Reporters, 300 7th St., SW, Washington, DC (202) 554-2345.

and Licensing Appeal Board for this spent fuel proceeding.

Alan S. Rosenthal, Chairman.
Dr. John H. Buck.
Thomas S. Moore.

Dated September 12, 1980.

C. Jean Bishop.

Secretary to the Appeal Board

(PR Doc. 80-2807 Filed 9-17-80 8:43 am)

BILLING CODE 7550-01-M

Advisory Committee on Reactor Safeguards, Subcommittee on Waste Management, Meeting

The ACRS Subcommittee on Waste Management will hold a meeting on October 3, 1980, in Room 1046, 1717 H St., NW., Washington, DC. Notice of this meeting was published August 22.

In accordance with the procedures outlined in the Federal Register on October 1, 1979 (44 FR 56408), oral or written statements may be presented by members of the public, recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Subcommittee, its consultants, and Staff. Persons desiring to make oral statements should notify the Designated Federal Employee as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements.

The entire meeting will be open to public attendance.

The agenda for subject meeting shall be as follows:

Friday, October 3, 1980

8:30 a.m. Until the Conclusion of Business

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, will exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will then hear presentations by and hold discussions with representatives of the NRC Staff, their consultants, and other interested persons regarding proposed rulemaking on the storage and disposal of nuclear waste (Waste Confidence Rulemaking PR 50. 51), and proposed rulemaking on the technical criteria for regulating geological disposal of high-level radioactive waste (PR-60).

Further information about topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements

and the time allotted therefor can be obtained by a prepaid telephone call to the cognizant Designated Federal Employee, Mr. John C. McKinley (telephone 202/634-3265) between 8:15 a.m. and 5:00 p.m., EDT.

Dated September 12, 1980.

John C. Hoyle.

Advisory Committee Management Officer.

(PR Doc. 80-2807 Filed 9-17-80 8:43 am)

BILLING CODE 7550-01-M

Advisory Committee on Reactor Safeguards, Proposed Meetings

In order to provide advance information regarding proposed meetings of the ACRS Subcommittees and Working Groups, and of the full Committee, the following preliminary schedule reflects the current situation, taking into account additional meetings which have been scheduled and meetings which have been postponed or cancelled since the last list of proposed meetings published Aug 22, 1980 (45 FR 56215). Those meetings which are definitely scheduled have had, or will have, an individual notice published in the Federal Register approximately 15 days (or more) prior to the meeting. Those Subcommittee and Working Group meetings for which it is anticipated that there will be a portion or all of the meeting open to the public are indicated by an asterisk (*). It is expected that the sessions of the full Committee meeting designated by an asterisk (*) will be open in whole or in part to the public. ACRS full Committee meetings begin at 8:30 a.m. and Subcommittee and Working Group meetings usually begin at 8:30 a.m. The exact time when items listed on the agenda will be discussed during full Committee meetings and when Subcommittee and Working Group meetings will start will be published prior to each meeting. Information as to whether a meeting has been firmly scheduled, cancelled, or rescheduled, or whether changes have been made in the agenda for the October 1980 ACRS full Committee meeting can be obtained by a prepaid telephone call to the Office of the Executive Director of the Committee (telephone 202/634-3267, ATTN: Mary E. Vanderholt) between 8:15 a.m. and 5:00 p.m., EDT.

ACRS Subcommittee Meetings

Ad Hoc ACRS Subcommittee, September 19-20, 1980, Washington, DC. The Subcommittee will meet with representatives of the Reactor Safety Committee (RSK) of the Federal Republic of Germany to discuss the design of the B&W NSSS, proposed

changes in the NRC siting criteria, and consideration of Class-6 Accidents in emergency planning. Notice of this meeting was published September 9.

**Crystal River Nuclear Power Plant, Unit No. 3*, September 26, 1980.

(Tentative) Washington, DC.

CANCELLED. Notice of this meeting was published August 22.

**Dresden Nuclear Power Plant, Unit 1*, October 3, 1980, Washington, DC.

RESCHEDULED TO October 8, 1980.

Notice of this meeting was published August 22.

**Waste Management*, October 3, 1980, Washington, DC. The Subcommittee will

discuss proposed rulemaking on the storage and disposal of nuclear waste

(Waste Confidence Rulemaking PR-50. 51) and proposed rulemaking on the

technical criteria for regulating geological disposal of high-level

radioactive waste (PR-60). Notice of this meeting appears elsewhere in this issue.

**Reactor Operations*, October 7, 1980, Washington, DC. The Subcommittee will

review a draft of the NRC Proposed Rule to Implement the Requirement of Section

110 of the NRC FY-80 Authorization Act (The Bingham Amendment) which calls

for the identification of each current rule and regulation that the Commission determines to be of particular

significance to the protection of the public health and safety, and

determination of the extent to which each currently operating plant complies

with these identified rules and regulations. Also, the Subcommittee

plans to address various ACRS general items assigned to it to monitor. Notice of this meeting was published August 22.

**Dresden Nuclear Power Plant, Unit 1*, October 8 (rescheduled from October 3), 1980, Washington, DC. The

Subcommittee will discuss: 1) The method proposed by Commonwealth Edison Company to decontaminate the

primary cooling system of Dresden Unit 1. 2) The Canadian Decontamination

Process (CAN-DECON Concept). 3) Adequacy of processing and disposal

of the radioactive waste resulting from chemical decontamination. 4) Comments

received from Federal Agencies and from the public relating to

decontamination of Dresden Unit 1.

**Regulatory Activities*, October 8, 1980, Washington, DC. RESCHEDULED TO November 5. Notice of this meeting was published August 22.

**Safety Philosophy, Technology or Criteria*, October 8, 1980 (Morning), Washington, DC. The Subcommittee will

review the Diablo Canyon Systems Interaction Analysis and NRC

Commissioner Gilinsky's questions concerning the North Anna ECCS

design. Notice of cancellation of this

POOR ORIGINAL

ATTACHMENT A

MEETING DATE: October 3, 1980
COMMITTEE MEETING: Radioactive Waste Management
LOCATION: Room 1046, 1717 H St., N.W., Washington, D. C.

ATTENDANCE LIST

POOR ORIGINAL

PLEASE PRINT

NAME	AFFILIATION
J.C. MCKINLEY	ACRS
GARRY G. YOUNG	ACRS
S. LAWROSKI	ACRS
D. MOELLER	ACRS
W. MATHIS	ACRS
C. MARK	ACRS
J. RAY	ACRS / CONSULTANT
S. PHILBRICK	ACRS / CONSULTANT
D. ORTH	ACRS / CONSULTANT
1. M. STEINDLER	"
1. F. ALBAUGH	"
2. S. CROMER	"
3. R. FOSTER	"
14. K. KRAUSKOPF	NMSS; WM
15. S. M. Caplan	SD
16. P.A. Comella	SD
17. F.A. Costanzi	NRC/SD
18. E. O'Donnell	SD
19. C.W. Nilsen	SD
20. J.L. Beaton	SD
21. Thomas J. Nicholson	NRC/SD
22. Fred Forscher	NRC / NMSS
23. JOHN B MARTIN	USDOE
COLIN A. HEATH	

MEETING DATE: October 3, 1980

SUBCOMMITTEE MEETING: Radioactive Waste Management

LOCATION: Room 1046, 1717 H St., N.W., Washington, D. C.

ATTENDANCE LIST POOR ORIGINAL

PLEASE PRINT

NAME	AFFILIATION
1. CARL NEWTON	DOE
2. WAYNE A. CARBIENER	BATTELLE - ONWI
3. PERRY B. SEIFFERT	DOUG AND MUNTZING
4. LUDWIG F. HARTUNG	NRC - WMHT BR.
5. Robert L. Johnson	NRC - WMHT
6. CLAYTON L. PITILLO JR.	NRC - WMHT
7. Lynn B Myers	Battelle - ONWI
8. MARY Lou BROWN	BATTELLE - ONWI
9. TOM Lombardo	IEEE Spectrum Magazine
10. Tom Cochran	NRDC
11. Bob Whitesel	EPRI
12. JERRY BIDA	BROOKHAVEN NUC. WASTE MAN
13. Patricia Worthington	NRC SD
14. PETER HART	NRC - WMHT
15.
16.
17. SURYA RAD. V.	NUS - ROCKVILLE
18.	
19.	
20.	
21.	
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23.	
24.	

POOR ORIGINAL

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS MEETING
ON

RADIOACTIVE WASTE MANAGEMENT

October 3, 1980

ATTENDEES PLEASE SIGN BELOW

PLEASE
PRINT

NAME	BADGE NO.	AFFILIATION
1. J. Evans		EET
2. R. F. Foster	J0030	ACRS
3. WAYNE A. CARBIENER	J0099	Battelle - ONWI
4. D. A. O'Neil	J0026	ACRS
5. W. Sturdivant	J0047	ACRS
6. W. P. Smith	J0051	ACRS
7. Sylvia C. Crocker		ACRS
8. Lynn B. Myers	J0464	Battelle - ONWI
9. Mary Lou Brown	J0034	Battelle ONWI
10. Konrad B. Krauskopf	J0054	ACRS
11. Fred Alldredge	J0036	ACRS
12. Perry Seiffert	J 0481	Duke University
13. Thomas G. Lombard		
14. Robert N. Whitesel	J0495	EPRC
15. Thomas G. Lombard	J0470	IEGG
16. Thomas B. Coche	E0480	NRDC
17. David Chaffee	J0483	Press - NWB
18. Gerald R. Bidler	J0477	Brockhaven Natl. Lab.
19. SURYA RAO	J0453	NUS CORP.
20. J. Small	J0463	BECHTEL
21. C. Powell	J0485	LOCKHART
22.		

PROPOSED SCHEDULE FOR OCTOBER 3, 1980
ACRS SUBCOMMITTEE MEETING ON WASTE MANAGEMENT
ROOM 1046, 1717 "H" St., N.W., WASHINGTON, D.C.

APPROXIMATE TIME

- 8:30 A.M. - 8:45 A.M. Introduction - (S. Lawroski, ACRS)
- 8:45 A.M. - 9:00 A.M. Status of Rulemaking Action, 10 CFR 60, Technical Criteria for Geological Disposal of High-Level Wastes (M. Bell, NMSS)
- 9:00 A.M. - 10:30 A.M. Regulatory Approach and Rationale for Performance Objectives, 10 CFR 60 (S. Coplan, NMSS)
- 10:30 A.M. - 10:45 A.M. ***** BREAK *****
- 10:45 A.M. - 11:45 A.M. Rationale for Technical Criteria, 10 CFR 60 (L. White, NMSS)
- 11:45 A.M. - 12:15 P.M. Summary, 10 CFR 60 (M. Bell, NMSS)
- 12:15 P.M. - 1:15 P.M. ***** LUNCH *****
- 1:15 P.M. - 2:45 P.M. DOE Presentation on R&D Efforts Relative to Geological Disposal of High-Level Wastes (C. Health, DOE)
- 2:45 P.M. - 3:00 P.M. ***** BREAK *****
- ~~3:00 P.M. - 4:00 P.M. Public Statements *TOM COCHRAN*~~
- 3:00 P.M. - 4:30 P.M. Status of Waste Confidence Rulemaking (S. Trubatch, OGC)

ATTACHMENT D

Reference Documents for Proposed Rulemaking on Technical Criteria for Regulating Geological Disposal of High-Level Waste (10 CFR 60).

1. Federal Register Notice, 45 FR 31393, dated May 13, 1980
2. Young to Sawroskie memo dated 7/22/80, "NRC Proposed Rulemaking on Technical Criteria for Regulating Geological Disposal."
 - a. [1] Edison Electric Institute comments dated 4/11/80.
 - b. [2] U.S. Arms Control and Disarmament Agency comments dated 4/11/80.
 - c. [3] Peter J. Welley comments dated 4/16/80.
 - d. [4] National Aeronautics and Space Administration comments dated 4/18/80.
 - e. [5] Department of Energy comments dated 4/18/80.
 - f. [6] Arvin S. Quist comments dated 5/21/80.
 - g. [7] A. E. Wasserbach comments dated 6/11/80.
 - h. [8] B. R. McElmurry comments dated 6/13/80.
 - i. [9] University of Arizona comments dated 6/26/80
 - j. [10] Gene H. Dyer comments dated 6/26/80.
 - k. [11] Attorney General of the State of New York comments dated 7/11/80.
 - l. [12] U.S. Department of the Interior comments dated 7/10/80.
 - m. [13] Bechtel National, Inc. comments dated 7/14/80.
 - n. [14] Atomic Industrial Forum, Inc. comments dated 7/11/80.
 - o. [15] Exxon Nuclear Company comments dated 7/11/80.
 - p. [16] American Institute of Chemical Engineers comments dated 7/11/80.
 - q. [17] Lazlo Toth comments dated 7/8/80.
 - r. [18] Department of Energy comments dated 7/15/80.
 - s. D'appolonia Consulting Engineers Priority I comments dated 6/18/80.
 - t. D'appolonia Consulting Engineers Priority II comments dated 6/19/80.
 - u. Irwin Ramson, Stanford University, comments dated 6/18/80.
 - v. Howard P. Ross, University of Utah Research Institute, comments dated 6/17/80
 - w. George F. Pinder, Princeton University, comments dated 6/17/80.

- 2. Frank J. Parker, Vanderbilt University, comments dated 6/18/80.
- 4. Neville Cook, comments dated 6/16/80
- 3. John M. Bird, Cornell University, comments dated 6/26/80.
- aa. [23] U.S. Environment Protection Agency comments dated 7/18/80.
- bb. [24] R. E. Johnson comments dated 7/11/80.
- cc. [25] Duke Power Company comments dated 7/14/80.
- dd. [19] Bechtel National, Inc. comments dated 7/17/80.
- ee. [20] Westinghouse Electric Corp. comments dated 7/11/80.
- ff. [21] Ralph Tauske and Marilyn Adam comments dated 7/13/80.
- gg. [22] California Energy Commission comments dated 7/14/80.

- 3. Young to Sawroski memo dated 8/5/80, "NRC Proposed Rulemaking on the Storage and Disposal of Nuclear Waste (PR-50, 51) and Technical Criteria for Regulating Geological Disposal of High-Level Waste (PR-60)".
 - a. [26] U.S. Department of the Interior comments dated 7/17/80.
 - b. [27] State of Connecticut comments dated 7/14/80.
 - c. [28] Utility Waste Management Group comments dated 7/31/80.
 - d. Konrad B. Kraushopf, Stanford University, comments dated 6/30/80.
 - e. Federal Register Notice, 45 FR 31393, dated 5/13/80.
- 4. Young to Sawroski memo dated 8/12/80, "NRC Proposed Rulemaking on Technical Criteria for Regulating Geological Disposal of High-Level Waste (PR-60)".
 - a. Technical Support Documentation for the Siting Requirements in 10 CFR 60 Disposal of High-Level Radioactive Waste in Geological Repositories.
 - b. National Research Council Report, "A Review of the Swedish KBS-II Plan for Disposal of Spent Nuclear Fuel".

5. Young to Lauraschi memo dated 9/25/80, "NRC Proposed Rulemaking on Technical Criteria for Regulating Geological Disposal of High-Level Waste (PR-60)".
- a. [29] Everett R. Irish comments dated 7/30/80.
 - b. [30] Susan Longenecker comments dated 9/5/80.
 - c. [31] Charles David Parent comments dated 9/8/80.
 - d. [32] National Resources Defense Council, Inc. comments dated 9/11/80.

Reference Documents for Waste Confidence Rulemaking:

1. Ahearn to Plesset letter dated 1/9/80, "ACRS Participation in Proposed Rulemaking on the Storage and Disposal of Nuclear Waste".
2. Plesset to Ahearn letter dated 1/15/80.
3. Ahearn to Plesset letter dated 1/27/80.
4. DOE/NE-0007, "Statement of Position of the USDOE, in the Matter of Proposed Rulemaking on the Storage and Disposal of Nuclear Waste (Waste Confidence Rulemaking)", dated April 15, 1980.
5. Jam to Sawroski memo dated 7/8/80, "Waste Management Rulemaking - Statements from the Public".
 - a. - Order extending time to file statements and cross-statements of position, dated May 29, 1980.
6. Young to Sawroski memo dated 7/21/80, "NRC Proposed Rulemaking on the Storage and Disposal of Nuclear Waste".
 - a. ① American Institute of Chemical Engineers statement dated 6/23/80.
 - b. ② Mississippians Against Disposal (M.A.D.) statement dated 7/1/80
 - c. ③ Scientists and Engineers for Secure Energy (SE₂) statement dated 7/1/80
 - d. ④ American Nuclear Society statement dated 7/3/80
 - e. ⑤ Tennessee Valley Authority statement dated 7/7/80
 - f. ⑥ State of South Carolina statement dated 7/7/80
 - g. ⑦ State of Vermont statement dated 7/7/80
 - h. ⑧ State of Ohio statement dated 7/7/80
 - i. ⑨ Atomic Industrial Forum statement dated 7/7/80
 - j. ⑩ Robert Abrams, Attorney General of the State of New York statement dated 7/7/80
 - k. ⑪ Edison Electric Institute statement dated 7/7/80
 - l. ⑫ New England Coalition on Nuclear Pollution dated 7/8/80
 - m. ⑬ William A. Sochet statement dated 7/8/80
 - n. ⑭ State of Delaware statement dated 7/3/80
 - o. ⑮ State of Minnesota statement dated 7/8/80

- p. [16] Participant Sensible Maine Power Statement dated 7/7/80
- q. [17] Bechtel National Inc. Statement dated 7/3/80
- r. [18] Neighbors for the Environment, Eugene Cramer Statement dated 7/4/80
- s. [19] United States Geological Survey Statement dated 7/7/80
- t. [20] Natural Resources Defense Council Statement dated 7/9/80
- u. [21] State of Illinois Statement dated 7/7/80
- v. [22] Wisconsin Geological and Natural History Survey Statement dated 7/10/80
- w. [23] Ocean County and Township of Lower Alloway Creek Statement dated 7/10/80
- x. [24] Marvin L. Lewis Statement dated 7/10/80
- y. [25] California Energy Commission Statement dated 7/7/80
- z. [26] Safe Haven, Ltd. Statement dated 7/11/80
7. Young to Sawroski memo dated 7/22/80, "NRC Proposed Rulemaking on the Storage and Disposal of Nuclear Waste (PR 50, 51)".
- a. State of Oklahoma Statement dated 7/9/80
- b. Malaso to Chilk memo dated 7/14/80
- c. State of Minnesota Statement Correction dated 7/9/80
- d. Request from Wisconsin's Environmental Decade, Inc. dated 7/9/80
- e. [28] California Department of Conservation Statement dated 7/7/80
- f. [29] David Deese, State of Wisconsin Statement dated 7/8/80
8. Young to Sawroski memo dated 8/5/80 NRC Proposed Rulemaking on the Storage and Disposal of Nuclear Waste (PR-50, 51) and Technical Criteria for Regulating Geological Disposal of High-Level Waste (PR-60)".
- a. United States Geological Survey Statement Correction dated 7/22/80.
- b. [30] Environmental Coalition on Nuclear Power Statement dated 7/22/80.
- c. [31] General Electric Company Statement dated 7/7/80
9. Young to Sawroski memo dated 9/25/80, "NRC Proposed Rulemaking on the Storage and Disposal of Nuclear Waste (Waste Confidence PR-50, 51)".
- a. DOE/NE-0007, Supp 1, DOE Cross-Statement dated 9/5/80.
- b. Attorney General of the State of New York Cross-Statement dated 9/3/80

- c. [3] Atomic Industrial Forum, Inc Cross-Statement dated 9/5/80.
 - d. [5] Consumers Power Company Cross-Statement dated 9/5/80.
 - e. [6] Tennessee Valley Authority Cross-Statement dated 9/5/80.
 - f. [7] State of Delaware Cross-Statement dated 9/5/80.
 - g. [8] California Energy Commission Cross-Statement dated 9/5/80.
 - h. [9] State of Minnesota Cross-Statement dated 9/8/80.
 - i. [10] State of Ohio Cross-Statement dated 9/8/80.
 - j. [11] General Electric Company Cross-Statement dated 9/5/80.
 - k. [12] California Department of Conservation Cross-Statement dated 9/5/80.
 - l. [13] American Institute of Chemical Engineers Cross-Statement dated 9/3/80.
 - m. [14] Niagara Mohawk Power Corp., Omaha Public Power District, Power Authority of the State of New York, and Public Service Company of Indiana Cross-Statement dated 9/5/80.
 - n. [15] United States Geological Survey Cross-Statement dated 9/5/80.
 - o. [17] Environmental Coalition on Nuclear Power Cross-Statement dated 9/10/80.
 - p. [18] State of Illinois Cross-Statement dated 9/5/80.
 - q. [19] Marvin L. Lewis Cross-Statement dated 9/11/80.
 - r. [20] New England Coalition on Nuclear Pollution and Natural Resources Defense Council Joint Cross-Statement dated 9/10/80.
 - s. [21] William A. Lochstet Cross-Statement dated 9/15/80.
 - t. Notice of Appearance, Consumers Power Co., dated 9/4/80
 - u. Association of Engineering Geologists Position Statement dated 8/1/80.
 - v. Stephens to Varanini Letter dated 8/26/80.
10. Federal Register Notice, Vol. 44, No. 208, 61372, dated Oct. 25, 1979.