

MAY 28 1991

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RC/RADIO WASTE MAN COMM

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Mr. Thomas H. Isaacs, Director  
Office of Strategic Planning and  
International Programs  
Office of Civilian Radioactive  
Waste Management  
U.S. Department of Energy  
Washington, D.C. 20585

Dear Mr. Isaacs:

SUBJECT: UNITED STATES POSITIONS ON UPCOMING MEETING OF THE RADIOACTIVE WASTE  
MANAGEMENT COMMITTEE IN JUNE 1991

This is in response to the U.S. Department of Energy's (DOE's) letter dated May 12, 1991. In this letter, DOE requested that the U.S. Nuclear Regulatory Commission (NRC) staff provide any necessary revisions to the position statements on the agenda items for the June 1991 meeting of the Radioactive Waste Management Committee (RWMC). The NRC staff has reviewed the previous position statements provided by DOE, and has proposed minor revisions to some of the statements (see enclosure).

There are some statements that do not need to be revised at all. Others need to include recent developments that pertain to these topics. For example, Item 11 shows significant revisions since the last RWMC meeting in September of 1990.

If you have any questions, please feel free to contact the responsible NRC staff member for this activity, Mr. Robert Carlson. Mr. Carlson can be reached at FTS 492-0435 or (301) 492-0435.

Sincerely,

(Original Signed by -  
Robert M. Bernero, Director  
Office of Nuclear Material Safety  
and Safeguards

Enclosure: As stated

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ENCLOSURE  
REVISIONS TO U.S. POSITIONS

**FULL TEXT ASCII SCAN**

COMMENTS ON UNITED STATES POSITIONS FOR THE RADIOACTIVE WASTE  
MANAGEMENT COMMITTEE (RWMC) MEETING IN JUNE 1991

ITEM 7      Review of PA Program of work

Background: Need to update the 3rd and 4th paragraphs of this section to reflect input from the RWMC's Steering Committee for Nuclear Energy "Report from the Sixth Meeting of the NEA Performance Assessment Advisory Group (PAAG)," dated October 26, 1990.

ITEM 8.a.2      Groundwater Flow Heterogeneity Workshop

U.S. Recommendation/Position: The U.S. believes that follow-up of some kind is needed to ensure that the benefits of the workshop are not dissipated (e.g., working groups on individual topics; reports by countries on progress related to particular topics).

WIPP Participant: Place the name "L. Lehman, State of Nevada" into a separate category labeled "Other."

ITEM 8.a.3      Groundwater Flow Through Argillaceous Media Workshop

U.S. Recommendation/Position: Concur with this comment if DOE chooses to send an observer. No NRC observers are needed at this time.

ITEM 11      National Status Reports

Talking Points: The "U.S. Radioactive Waste Management Programs in 1990" (as of September 1990) summary report has been revised to reflect the current status of these programs through May 1991. (See attachment.)

## U.S. NUCLEAR REGULATORY COMMISSION

### REGULATORY DEVELOPMENT ACTIVITIES

A major aspect of the U.S. Nuclear Regulatory Commission's (NRC's) high-level waste (HLW) program has been to re-examine and clarify areas of NRC's geologic repository regulation, 10 CFR Part 60 -- Disposal of High-Level Radioactive Waste in Geologic Repositories. Completing this effort prior to the receipt of a license application for the disposal of HLW in a geologic repository will facilitate the licensing process for all parties involved, including the NRC, the U.S. Department of Energy (DOE), the repository host State, affected-units-of-local-government and Indian Tribes, and the adjudicatory system.

No new rulemaking actions were completed during this reporting period. However, on April 19, 1990, DOE submitted a petition requesting that NRC amend 10 CFR Part 60 to include a specific dose criteria for design basis accidents at a geologic repository. Prior to the petition, NRC identified the need for a regulatory requirement covering a design basis accident dose limit and is working on a related regulatory initiative. This initiative would establish additional preclosure regulatory requirements for the repository and closely relates to the subject matter identified by DOE in its petition. Independent of its regulatory initiative in this area, NRC will also issue a final determination on the DOE petition in accordance with NRC procedures.

On December 17, 1990, NRC received a second rulemaking petition relative to 10 CFR Part 60. The States of Washington and Oregon requested that NRC amend 10 CFR 60.2 to revise its definition of "high-level radioactive waste" and in doing so, establish a procedural framework and substantive standards by which NRC will determine whether reprocessing waste, including certain waste stored at DOE's site at Hanford, Washington, is HLW and therefore subject to the Commission's licensing authority. This petition is currently under review by NRC.

NRC continued to interact with the U.S. Environmental Protection Agency (EPA) on EPA activities related to the revision of its standard, 40 CFR Part 191. The Nuclear Waste Policy Act of 1982 (NWPA), as amended, requires that NRC's regulations be consistent with any standards promulgated by EPA. Once the final EPA standard is issued, certain amendments to 10 CFR Part 60 will be needed to achieve the consistency required by the Act. As part of its parallel rulemaking activity in fiscal year (FY) 1991, the staff is reviewing working draft no. 3 of the revised EPA standard.

### REGULATORY GUIDANCE ACTIVITIES

NRC, with assistance from its contractor the Center for Nuclear Waste Regulatory Analyses (CNWRA), is continuing to conduct its systematic analysis of 10 CFR Part 60 to identify uncertainties in the regulatory framework, and to develop regulatory requirements and guidance to resolve these uncertainties.

ATTACHMENT

Regulatory Guides and Staff Technical Positions (STPs) are key mechanisms that NRC uses to provide guidance to DOE. They describe acceptable methods to demonstrate compliance with 10 CFR Part 60.

During FY 1991, one Regulatory Guide and one STP were issued in draft form for public comment. The Draft Regulatory Guide, "Format and Content for the License Application for the High-Level Waste Repository" indicates the information to be provided is a license application pursuant to 10 CFR Part 60 and establishes a license application format acceptable to NRC. The STP is "Investigations to Identify Fault Displacement and Seismic Hazards at a Geologic Repository." A second STP "Underground Facility Design -- Thermal Loads," is being developed and it is expected to be issued for public comment in the Summer 1991. Finally, one STP on "Repository Design -- Regulatory Considerations in the Design and Construction of the Exploratory Shaft Facility," [NUREG-1439] was published in final form during 1991.

In addition to these guidance development activities, NRC evaluated 49 potential regulatory and institutional uncertainties previously identified by the CNWRA and recommended an uncertainty reduction approach for each uncertainty. Four regulatory and institutional uncertainty-reduction categories were identified. Criteria were established for each of the four categories and each potential uncertainty was analysed to determine the appropriate uncertainty-reduction category. Of the 49 potential regulatory and institutional uncertainties, 24 were placed in the "guidance" category, meaning that they could be reduced through the development of regulatory guidance. Three can be reduced by minor rule-changes requiring administrative corrections, while 7 uncertainties may require major rule-changes. Fifteen uncertainties were placed in the "further analysis" category.

#### YUCCA MOUNTAIN SITE CHARACTERIZATION PROGRESS REPORT REVIEW

On December 28, 1988, DOE submitted the statutory SCP for the Yucca Mountain Site. In its Site Characterization Analysis (SCA) of the SCP, issued on July 31, 1989, NRC provided DOE with two objections and 196 comments and questions related to the SCP. These are being tracked as open items until they are resolved by means of information in SCP progress reports, other DOE documents, or by interactions between NRC and DOE.

On March 2, 1990, DOE provided to NRC its first progress report on the scientific investigation program for the Yucca Mountain Site (e.g., the SCP progress report). Such reports, mandated at six-month intervals by NWPA and 10 CFR Part 60, are to address progress, results, and changes in DOE's site characterization program, including site investigations, repository and waste package designs, and performance assessments. Following its review of the first progress report, NRC transmitted comments to DOE regarding the contents of future progress reports on June 25, 1990.

On March 27, 1991, DOE provided the second SCP progress report to NRC; however, DOE did not request an NRC review. NRC agreed to this because there was no new (and only limited ongoing) site characterization work at Yucca Mountain. Hence, the second progress report, like the first, contained little detailed information on the progress of DOE's site characterization activities.

## STATE INTERACTIONS

The State of Nevada and local government representatives continue to participate in the technical exchanges and meetings between NRC and DOE. State, local and Tribal representatives also continue to receive notification of upcoming NRC/DOE HLW meetings, including NRC's Advisory Committee on Nuclear Waste transcripts and letter reports relative to the HLW program.

## QUALITY ASSURANCE ACTIVITIES

During this year, the NRC continued its review of DOE's and DOE contractors' Quality Assurance (QA) plans and procedures (document reviews), evaluations of DOE's effectiveness in auditing its program to identify and correct problems in program implementation, and DOE contractor effectiveness in implementing QA. To conduct its evaluation of DOE's effectiveness in auditing and DOE contractor effectiveness in QA program implementation, NRC conducts observation audits using audit teams composed of technical and QA staff from both NRC and the CNWRA. Through these observation audits, NRC has an opportunity to judge the effectiveness of the DOE audit as well as the audited organization's QA program. DOE audits were conducted at all major contractor organizations participating in the site characterization program for Yucca Mountain. Formal NRC reports are issued for all of the audit observations, and DOE must respond to those where the NRC audit team identified deficiencies in the audit process or in the QA program being audited.

NRC has accepted, as of January 18, 1991, those QA programs identified by DOE as affecting the initiation of new site characterization activities (i.e., Midway Valley Trenching and Calcite/Silica Activities). As of May 10, 1991, two of the DOE HLW repository QA programs had been accepted by the NRC without any exceptions. Those were for Sandia National Laboratories and Lawrence Livermore National Laboratory. Four participants' QA programs have been accepted by NRC with relatively minor exceptions, which should not affect, at least, the early stages of site characterization activities. NRC has also concurred with DOE in the acceptability of the Office of Civilian Radioactive Waste Management QA program (Headquarters and the Yucca Mountain Site Characterization Project Office) for new site characterization activities limited to Midway Valley Trenching and Calcite/Silica Activities. NRC is also reviewing a request to concur with the DOE finding of acceptability of the QA programs for Los Alamos National Laboratory and Science Applications International Corporation. NRC is continuing to work with DOE to review the remaining contractor QA programs and complete acceptance of those programs.

## WASTE CONFIDENCE

In August 1984, NRC issued its decision on waste confidence. In that decision NRC noted that it would review its conclusions "should significant and pertinent unexpected events occur, or at least every five years until a repository is available." The findings contained in NRC's 1984 decision were: (1) a mined geologic repository for high-level radioactive waste and spent fuel is technically feasible; (2) one or more mined geologic repositories will be available during the 2007-2009 time frame, and that sufficient repository capacity will be available within 30 years beyond expiration of any reactor operating license to dispose of radioactive wastes originating in such reactor and generated up to that time; (3) high-level radioactive waste and spent fuel will be managed in a safe manner until sufficient repository capacity is available to assure that safe disposal occurs; (4) spent fuel can be stored safely and without significant environmental impacts for at least 30 years beyond the expiration of a reactor's operating license; and (5) safe independent onsite and offsite spent fuel storage will be made available if such storage capacity is needed.

In 1989, NRC reviewed its five 1984 findings and revised the second and fourth findings. The second finding was revised to expand the time in which NRC believed a repository would be available from 2007-2009 to the first quarter of the 21st century. The fourth finding was revised to include renewed licenses as the basis for the period beyond which spent nuclear fuel could be safely stored, as opposed to the expiration of the operating license.

Finally, NRC reaffirmed the remaining findings and, in doing so, extended its commitment cycle for conducting Waste Confidence reviews from five to ten years.

## CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES (CNWRA)

The CNWRA provides long-term technical assistance and research in disciplines required to support NRC in fulfilling its responsibilities under NWSA. In 1991, the CNWRA completed its fourth year of operation as a Federally Funded Research and Development Center.

The level of technical assistance and research support that the Center provided to the NRC continued to increase throughout this fourth year. During this fourth year, the CNWRA continued the development of its technical and analytical capabilities, including: hiring of additional technical staff; working on nine research projects; and continuing the systems engineering program to assist NRC in assuring that all NRC NWSA-mandated activities are optimally planned, integrated, implemented, documented, and managed. The CNWRA provided technical support to NRC by: completing a repository functional analysis identifying regulatory and institutional uncertainties in 10 CFR Part 60, and assisting NRC in identifying reduction actions for these uncertainties; participating in NRC/DOE precicensing interactions; assisting in NRC observation audits of DOE's QA program; providing technical support in developing NRC STPs and Rulemakings; and assisting in the development of technical assistance capabilities and methods (e.g., computer codes).