

LETTER TO ISAACS ON NEA MTG

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January 8, 1990

Mr. Thomas H. Isaacs
Associate Director for External Relations and Policy
Office of Civilian Radioactive Waste Management
U.S. Department of Energy
Washington, D.C. 20585

Dear Mr. Isaacs:

I am responding to your letter of December 12, 1989, requesting input from the U.S. Nuclear Regulatory Commission (NRC) for the briefing book to be used by the U.S. Delegation to the Radioactive Waste Management Committee (RWMC) of the Organization for Economic Cooperation and Development/Nuclear Energy Agency on January 23-24, 1990.

In reviewing the draft briefing book, we have focussed on the proposed "U.S. Recommendation/Position" and proposed "Talking Points" for the agenda items. With one exception, we have no major objections to the proposed Positions and Talking Points. We have identified a number of changes which we believe need to be incorporated into the Positions in order to be more representative of the U.S. Delegation (Enclosure 1).

Our major objection deals with Agenda Item 5(b) on the Alligator Rivers Analogue Project (ARAP). We have two concerns with the proposed Talking Points on this subject. First, Talking Point 2 identifies the lack of an overall strategy document within the U.S. Department of Energy's (DOE) Office of Civilian Radioactive Waste Management (OCRWM) for the study of natural analogues. This highlights a fundamental problem which we believe would be more appropriately discussed on the national level rather than in an international meeting. Therefore, we recommend that Talking Point 2 be deleted. We would point out that NRC is currently planning to hold a workshop on natural analogues. One of the purposes of the workshop will be to discuss the potential role of natural analogues in repository performance assessment model validation. As discussed in the DOE contractor report on the ARAP, OCRWM participation in this workshop could help DOE determine how many and which additional analogue studies it may wish to support. Second, we believe that Talking Points 3 and 4 should be deleted because they do not reflect the advantages of participation in the ARAP. Talking Points 3 and 4 also do not reflect the basis for NRC support of this project. Detailed comments on the ARAP are included in Enclosure 1.

We are also providing an updated summary of NRC activities in the high-level waste program area to be included in the status report on radioactive waste management activities in the United States (Enclosure 2). At this time, we anticipate that the NRC will be represented at the RWMC meeting by Mr. Robert E. Browning, Director of the Division of High-Level Waste Management and Mr. Howard Faulkner, International Programs, Office of Government and Public Affairs.

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January 8, 1990

Finally, we would note that the "RWM Collective Opinion on Safety Assessment" (RWM/DOC (89)1), was not received in time for NRC to complete its review of the document. Therefore, we will not be able to agree on a relatively final text as requested on the meeting agenda.

I trust that this reply will assist DOE in finalizing the U.S. Positions and Talking Points for the topics to be discussed. If I can be of further assistance in this matter, I will be pleased to do so.

Sincerely,

RS

Robert M. Bernero, Director
Office of Nuclear Material Safety
and Safeguards

Enclosures: As stated

DISTRIBUTION

Central File	B.J. Youngblood	R.E. Browning	J. Bunting
LSS	J. Linehan	R. Ballard	On-Site Reps
CNWR	NMSS R/F	HLPD R/F	J. Corrado
LPDR	ACNW	PDR	

*See previous concurrence.

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DATE:01/ 5/90 :01/5 /90 :01/7 /90:01/8/90 : : :

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Sincerely,

(Signed) Robert M. Bernero

Robert M. Bernero, Director
Office of Nuclear Material
Safety and Safeguards

Attachments: As stated

DISTRIBUTION

Central File	B.J. Youngblood	R.E. Browning	J. Bunting
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NRC COMMENTS ON PROPOSED "US RECOMMENDATION/POSITION" AND "TALKING POINTS"

1) Agenda Item: 5(b) Detailed Progress Report on Alligator Rivers Analogue Project

Add underlined sentence to U.S. Recommendation/Position:

The U.S. will continue to support the Alligator Rivers Analogue Project (ARAP). The U.S. DOE will not, at this time, participate in the ARAP. The U.S. NRC is presently supporting and participating in the ARAP.

Add underlined sentence to Talking Point 1, and revise as follows:

The study of natural analogues provides a way to increase confidence in prediction of long-term performance of radioactive waste disposal sites. The U.S. DOE will maintain cognizance of natural analog activities. The U.S. DOE may, at a later date, decide on participation in natural analog study projects, given that the resulting information from these studies may complement other data and be used to extrapolate short term test results to longer range time frames, and/or small scale testing to repository dimensions.

Delete Talking Point 2. This Talking Point identifies the lack of an overall strategy document within DOE for the study of natural analogues. This highlights a fundamental problem in the DOE high-level waste program which we believe would be more appropriately discussed on the national level rather than in an international meeting. According to the December 5, 1989 DOE contractor report on the ARAP, this contractor had earlier prepared a draft "Natural Analogue Strategy Paper." The draft paper included a recommendation that DOE adopt an overall strategy on natural analogues and hold a workshop on natural analogues jointly with NRC. The December 5, 1989 report states that "Based on the findings of such a workshop, the DOE could then determine how many and which additional studies of this type to fund and at what level." NRC is currently planning to hold a workshop on natural analogues. One of the purposes of the workshop will be to discuss the potential role of natural analogues in repository performance assessment model validation. DOE participation in this workshop may contribute to development of an overall strategy for use of natural analogues in DOE's repository program, and in particular in the area of performance assessment.

Delete Talking Points 3 and 4. These Talking Points essentially reflect only the "Arguments Against DOE's Participation" in the contractor report. They do not reflect the "Arguments in Favor of U.S. DOE Participation" in the contractor report. It is also important to note that the first page of the contractor report contains the following statements: "We found it very difficult to do a proper and fair evaluation. We have very spotty information. We did not have the benefit of interaction with other project participants. We really do not know exactly what is proposed, technically, fiscally, or organizationally." Therefore, NRC does not consider that the DOE contractor

report should provide the basis for a unilateral U.S. position on the ARAP, as the proposed Talking Points suggest.

Insert the following new Talking Point:

The U.S. NRC supports the ARAP for the following reasons: (1) it is a key component of INTRAVAL; (2) it has successfully developed a detailed data base for transport model validation studies; (3) it is cost-effective; (4) it provides a forum for developing an international consensus on natural analogues and performance assessment model validation; (5) it provides insight into site characterization methods and scenario development.

2) Agenda Item: 5(d) Proposal to Disband the Expert Group on Geochemical Modeling and Data

Add the underlined to the U.S. Recommendation/Position:

The OCRWM position is contingent on what the OECD/NEA proposal will be. The OCRWM has no objection to disband the group as long as the TDB is effectively managed, and mechanisms exist to quickly and effectively address management problems in the future. In this regard, it may be premature to disband the Expert Group before products have been produced and the need for appropriate follow-on work has been fully explored.

3) Agenda Item: 6(b) Review of the Role, Terms of Reference and Membership of ISAG

NRC would not require that a new advisory group be formed as a condition for disbanding the ISAG. If a new group is formed, however, NRC would participate in the group. Furthermore, we would request that NRC be represented by Dr. Mysore Nataraja, Section Leader, Geotechnical Engineering Section, Engineering Branch, Division of High-Level Waste Management.

Insert the following new Talking Point:

The Core Group members should be selected from experts involved with actual testing.

HIGH-LEVEL WASTE PROGRAM

Regulatory Development Activities

A major aspect of the high-level waste program has been to reexamine and clarify selected areas of NRC's regulations. Completing this effort prior to receipt of a license application for a repository for disposal of high-level waste will facilitate the licensing process for all parties involved, including the licensing staff, the DOE, the State, affected units of local government and Indian Tribes, and the adjudicatory boards.

Five rulemaking actions were completed during this reporting period. First, NRC concluded its negotiated rulemaking to amend the Commission's Rules of Practice in 10 CFR Part 2, on procedures for the submission and management of records and documents related to repository licensing. This final rule was published in April 1989. After publication of this rule, the Commission appointed an Administrator for the Licensing Support System--the electronic information management system established as part of this rulemaking action for the licensing proceeding.

In September 1989, NRC published new proposed amendments to 10 CFR Part 2. The purpose of these amendments is to facilitate NRC's compliance with the schedule for issuing a decision on construction authorization while allowing for a thorough technical review of the license application and equitable treatment of parties to the hearing.

A final rule was published in May 1989, amending 10 CFR Part 61 to require disposal of "Greater than Class C" wastes in the deep geologic repository for high-level waste, unless the Commission has approved disposal elsewhere. The final rule obviates the need for altering existing classifications of radioactive wastes as high-level or low-level.

In July 1989, NRC published a final rule amending 10 CFR Parts 51 and 60. The purpose of this rulemaking is to set the standards and procedures that will be used by NRC in determining whether adoption of the DOE's environmental impact statement (EIS) is practicable, as provided under the Nuclear Waste Policy Amendments Act (NWPAA). Under the new rule, the NRC will find it practicable to adopt DOE's EIS unless the action that NRC proposes to take differs in an environmentally significant way from the action described in DOE's license application, or significant and substantial new information or new considerations render the DOE EIS inadequate.

Finally, in September 1989, NRC issued a proposed amendment to 10 CFR Part 51 on the timing of availability of a repository and the environmental impacts of storage of spent fuel at reactor sites after the expiration of reactor operating licenses. This amendment would conform Part 51 to proposed revised findings in NRC's 1989 review of its Waste Confidence Decision.

The staff continued to follow developments on U.S. Environmental Protection Agency (EPA) activities revising EPA standards on the management and disposal of radioactive waste. The NRC will conduct its rulemakings on the conformance of Part 60 and the implementation of EPA standards in parallel with the revised EPA standards.

Regulatory Guidance Activities

The staff is continuing to conduct an active program to identify uncertainties in the regulatory framework and to develop regulatory requirements and guidance to resolve these uncertainties. Technical Positions (TPs) are key mechanisms for providing guidance to DOE and are focused on staff criteria for acceptable methods of demonstrating compliance with 10 CFR Part 60.

The following TPs were published in final form or in draft form for public comment during fiscal year 1989:

- Final TP - "Postclosure Seals, Barriers, and Drainage Systems in an Unsaturated Medium" (NUREG-1373).
- Draft TP - "Tectonic Models under 10 CFR Part 60."
- Draft TP - "Methods of Evaluating Seismic Hazard at a Geologic Repository."

In addition to the staff effort to reexamine and clarify regulatory requirements and identify areas where guidance may be needed, the NRC's Center for Nuclear Waste Regulatory Analyses (CNWRA) identified and made recommendations on regulatory and institutional uncertainties with respect to specific DOE activities and the importance and timing of resolution. The staff will use the CNWRA's recommendations on ways to resolve uncertainties in deciding whether to pursue further rulemakings or to develop regulatory guidance documents.

Yucca Mountain Site Characterization Analysis

Under the NWPAA, DOE is required to submit to NRC for review and comment a general plan for site characterization activities to be conducted at the candidate site before shaft sinking. In January 1988, DOE issued the Consultation Draft Site Characterization Plan (CDSCP) for the Yucca Mountain, Nevada Site. NRC provided objections, comments, and questions on the CDSCP in its final point papers in May 1988.

DOE provided the Yucca Mountain, Nevada Site Characterization Plan (SCP) to NRC on December 28, 1988. In its Site Characterization Analysis (SCA) of the SCP for the Yucca Mountain Site, issued on July 31, 1989, the NRC staff found that two of its five objections on the CDSCP remained unresolved. These related

to DOE's not having a baselined quality assurance (QA) program in place and to the adequacy of both the exploratory shaft facility (ESF) Title I design control process and the design.

Of the 162 comments and questions that the NRC staff raised about the CDSCP, 103 were satisfactorily resolved. Of the remaining 59, many were partially resolved. These 59 have been incorporated into the 196 SCP comments and questions, all of which will be tracked as open items until they are resolved by means of information in SCP progress reports, other DOE documents, or by interactions between DOE and NRC staff.

Finally, the staff restated a programmatic concern raised by the Commission on the Draft 1988 DOE Mission Plan Amendment, that pressure to meet unrealistic schedules may leave DOE insufficient time for site characterization and for developing a complete and high quality license application.

State Interactions

NRC continues to include the State of Nevada and the three counties designated as affected units of local government as participants in the high-level waste program. The Commission held a public meeting with the State in December 1988. State representatives participated in numerous NRC-DOE technical interactions and in DOE QA audits observed by the NRC staff during fiscal year 1989. Items of interest to the State and local governments are included on the agenda for all NRC-DOE meetings, and the NRC routinely involves the State in all other interactions. In addition, the NRC informs the State, local governments, and potentially affected Indian Tribes of all Commission meetings and meetings of the Advisory Committee on Nuclear Waste (ACNW) on the high-level waste program.

As requested by the State of Nevada, NRC staff reviewed the QA Manual for the Nevada Agency for Nuclear Projects/Nuclear Waste Project Office and found it acceptable and consistent with NRC regulations. Unlike staff review of DOE QA programs, the review of the Nevada QA Manual was not a requirement, but was carried out under a policy of cooperation with the State to help guide it in developing high quality data which potentially may be used during the licensing hearings on the repository. NRC is not required by the NWPAA to review technical activities carried out by the State in connection with DOE's characterization of the Yucca Mountain site.

On July 6, 1989, Acting Governor Robert Miller of Nevada signed legislation making it illegal to store nuclear waste anywhere in the State of Nevada. It is not clear what effect this will have on the repository program.

Quality Assurance Activities

The NRC staff's objective in its review of the DOE QA program is to establish confidence that work performed during site characterization is

appropriately controlled and defensible in licensing before site characterization begins. The staff's QA review is divided into a review of DOE QA plans and procedures (document reviews) and evaluations of DOE's effectiveness in auditing its program to identify and correct problems in program implementation.

As stated earlier, in December 1988, DOE submitted the SCP for NRC staff review. The SCP contains general information on DOE's QA program, including QA organizations, regulations, activities covered by the QA program, and references to more detailed QA plans and procedures. In fiscal year 1989, the staff not only reviewed the QA information provided in the SCP, but also conducted reviews of the detailed QA plans for all of the Yucca Mountain program contractors and provided formal comments to DOE.

To conduct its evaluation of DOE's effectiveness in auditing, the NRC staff conducted eight observation audits, using teams composed of technical and QA staff from the NRC and QA staff from the Center for Nuclear Waste Regulatory Analyses (CNWRA). The DOE audits were conducted at all major contractor organizations participating in the site characterization program for the Yucca Mountain Project. Formal staff reports were issued for all of the audit observations, and DOE will have to respond to those where improvements are needed in the audit process.

The staff also reviewed and commented on the QA requirements document for glass waste producers (the West Valley Demonstration Project and Defense Waste Processing Facility at Savannah River). Each glass waste form producer and the major participating organizations must have a QA program that meets the applicable requirements in this document.

Waste Confidence

In August 1984, NRC issued its "Waste Confidence" Decision. In its Decision, the Commission made five findings on: (1) the technical feasibility of disposal; (2) the timing of repository availability and sufficient disposal capacity; (3) safe management of wastes until a repository is available; (4) duration of safe storage; and (5) ability to provide additional storage capacity, if needed. The Commission committed to review its findings at least every five years, until a repository for high-level waste is available.

In September 1988, the Waste Confidence Review Group was established to carry out the first five-year review of the original Decision. The Review Group provided the Commission its Proposed 1989 Waste Confidence Decision and Conforming Amendments to 10 CFR Part 51 in June 1989. In September 1989, the Proposed Decision and Proposed Rulemaking were published for comment.

The proposed Decision would revise two of the findings such that the timing of repository availability would be extended to the first quarter of the twenty-first century, and the duration of safe storage would be revised to

cover 30 years beyond the licensed life for operation of a reactor (which may include the term of a renewed or extended operating license). The Proposed Amendment to 10 CFR Part 51 essentially conforms the regulation to these two revised findings. A Final Decision and Rulemaking are planned for mid-1990.

Center for Nuclear Waste Regulatory Analyses

The Center for Nuclear Waste Regulatory Analyses (CNWRA) completed its second year of operation on October 14, 1989. NRC originally envisioned a three-year "phase-in" plan for the establishment of the Center and the transfer of essentially all NRC technical assistance work from existing contractors. However, in Year Two, NRC has accelerated this plan so that by the end of the second year, nearly all of its technical assistance work was transferred to the CNWRA.

The level of support that the Center provided to NRC increased throughout the second year. The CNWRA continued the development of its technical and analytical capabilities, including the hiring of additional technical staff; work on four research projects and the three-year transportation risk study begun in Year One; and the ongoing systems engineering program to assure that all NRC high-level waste activities required under the NWPA, as amended, are optimally planned, integrated, implemented, documented and managed. The CNWRA provided technical support to the NRC staff by recommending regulatory requirements that should receive priority attention during NRC's review of DOE's SCP; assisting NRC in resolving technical concerns raised in NRC's comments on DOE's CDSCP (such as those raised regarding the exploratory shaft); assisting in the NRC review of DOE's SCP, including the description of the exploratory shaft facility; assisting in QA observation audits; providing technical support in developing NRC Technical Positions and Rulemakings, and initiating two new research projects.