



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

November 6, 1985

PDR

The Honorable Morris Udall, Chairman
Subcommittee on Energy and the Environment
Committee on Interior and Insular Affairs
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

We are pleased to respond to the questions raised in your September 9, 1985 letter concerning implementation of the Nuclear Waste Policy Act. We are also enclosing Commissioner Asselstine's views and Commissioner Zech's views on the issue of the timing of the preliminary determination.

Sincerely,

Nunzio J. Palladino

Enclosures:
As stated

cc: Rep. Manuel Lujan

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PDR COMMS NRCC
CORRESPONDENCE PDR

QUESTION 1. WOULD THERE BE A SUBSTANTIVE DIFFERENCE IN
NRC REQUIREMENTS FOR A FULL REPOSITORY LICENSE
APPLICATION VERSUS REQUIREMENTS FOR A
REPOSITORY ACCEPTING LIMITED QUANTITIES OF
WASTE? COULD A LIMITED REPOSITORY SHORTEN
LICENSING TIME? IF SO, HOW?

ANSWER.

THERE WOULD BE NO DIFFERENCE IN THE APPLICATION RELATED TO THE
FIRST LICENSING STEP--CONSTRUCTION AUTHORIZATION. THIS INVOLVES
MAKING TECHNICAL FINDINGS ON SITE SUITABILITY CONSIDERING THE FULL
QUANTITY OF WASTE THAT ULTIMATELY WILL BE DISPOSED OF AT THE SITE.

HOWEVER, AFTER THE SITE SUITABILITY FINDING HAS BEEN MADE, IT
MIGHT BE POSSIBLE TO BREAK THE NEXT STEP--THE AUTHORIZATION TO
OPERATE THE REPOSITORY--INTO SEVERAL PARTS. IN FACT, THE MISSION
PLAN ASSUMES THAT THIS WILL OCCUR. WHILE THIS WILL NOT REDUCE
THE OVERALL LICENSING TIME, IT WILL PERMIT DOE TO BEGIN OPERATION
ON A LIMITED SCALE BEFORE FULL SCALE OPERATION.

QUESTION 2. PLEASE PROVIDE A DETAILED EXPLANATION OF NRC'S POSITION CONCERNING WHEN A PRELIMINARY DETERMINATION OF SUITABILITY SHOULD BE MADE, PURSUANT TO SECTION 114(F) OF THE NUCLEAR WASTE POLICY ACT.

ANSWER.

IN NRC'S JULY 31, 1984 COMMENTS TO DOE ON THE DRAFT MISSION PLAN, IT WAS STATED THAT THE MISSION PLAN SHOULD BE REVISED TO REFLECT THE AGREEMENT MADE AT THE JUNE 22, 1984 COMMISSION MEETING ON THE COMMISSION'S CONCURRENCE DECISION ON THE DOE SITING GUIDELINES. THIS AGREEMENT STATED " . . . THAT THE PRELIMINARY DETERMINATION REQUIRED BY SECTION 114(F) OF THE NWPA SHOULD BE MADE AFTER THE COMPLETION OF SITE CHARACTERIZATION AND NOT AT THE TIME OF SITE NOMINATION AND RECOMMENDATION FOR CHARACTERIZATION."

THE COMMISSION HELD A PUBLIC MEETING ON SEPTEMBER 6, 1985 TO HEAR THE VIEWS OF INTERESTED PARTIES WHO WERE INVOLVED IN THE INITIAL CONSIDERATION OF THIS MATTER. THE COMMISSION HAS CONSIDERED THE INPUT PROVIDED BY THESE PARTIES AND THE RESULTS OF NRC'S OFFICE OF GENERAL COUNSEL EXAMINATION OF NRC'S LEGAL REQUIREMENTS TO TAKE ANY ACTION NOW IN RESPONSE TO THE CHANGE IN DOE'S POSITION ON THE TIMING OF ITS PRELIMINARY DETERMINATION. THE COMMISSION HAS AGREED THAT DOE'S MODIFIED POSITION DOES NOT REQUIRE ANY CHANGE IN NRC'S PRIOR CONCURRENCE IN THE GUIDELINES. DOE WAS NOTIFIED BY LETTER ON OCTOBER 24, 1985 OF NRC'S CONTINUED CONCURRENCE. NRC STAFF IS CURRENTLY PREPARING A PUBLIC STATEMENT ON NRC'S CONTINUED CONCURRENCE.

QUESTION 3. WHAT WAS THE EXACT NATURE OF THE AGREEMENT REACHED BETWEEN DOE AND NRC MADE AT THE JUNE 22, 1984 COMMISSION MEETING ON THE COMMISSION'S CONCURRENCE ON THE SITING GUIDELINES? DID DOE STATE THAT THE PDS WOULD BE MADE AFTER CHARACTERIZATION? WAS THIS A FACTOR IN NRC'S APPROVAL OF THE GUIDELINES? SPECIFICALLY WHAT WAS THE RELATIONSHIP BETWEEN THE TIMING OF THE DETERMINATION AND THE APPROPRIATENESS OR SUFFICIENCY OF THE GUIDELINES?

ANSWER.

THE COMMISSION'S VIEW IS THAT THE COMMISSION AND DOE AGREED AT THE JUNE 22, 1984 MEETING THAT (1) IN THE GUIDELINES THAT WERE SUBMITTED TO THE NRC FOR ITS CONCURRENCE, A SENTENCE RELATING TO THE PRELIMINARY DETERMINATION SHOULD BE DELETED FROM THE FINAL GUIDELINES; AND (2) THE PRELIMINARY DETERMINATION REQUIRED BY SECTION 114(F) OF THE NWPA SHOULD BE MADE AFTER THE COMPLETION OF SITE CHARACTERIZATION AND NOT AT THE TIME OF SITE NOMINATION AND RECOMMENDATION.

DOE STATED AT THE JUNE 22, 1984 MEETING THAT "THE PRELIMINARY DETERMINATION FOR THOSE THREE SITES UNDER 114(F) SHOULD BE MADE AFTER THE COMPLETION OF SITE CHARACTERIZATION." HOWEVER, DOE ADDED THAT ALL THREE SITES DO NOT HAVE TO BE FOUND ACCEPTABLE AT THE END OF SITE CHARACTERIZATION. THE AGREEMENT WAS A FACTOR IN THE COMMISSION'S CONCURRENCE WITH THE GUIDELINES ONLY IN THE

LIMITED SENSE THAT IT LED TO DELETION OF THE ONLY PROVISION OF THE GUIDELINES WHICH ADDRESSED THE TIMING QUESTION. THE AGREEMENT WAS NOT A CONDITION OF CONCURRENCE. IN EFFECT, AS A RESULT OF THE AGREEMENT, DOE AND NRC AGREED TO GUIDELINES THAT WERE SILENT ON THE TIMING QUESTION.

SEE ALSO RESPONSE TO QUESTION 2.

QUESTION 4. IF THE DEPARTMENT REFUSES TO CHANGE THE MISSION PLAN TO REFLECT A POST-CHARACTERIZATION PDS, WILL THE NRC RETRACT ITS CONCURRENCE ON THE SITTING GUIDELINES? IF NOT, WILL THE DOE POLICY THREATEN THE LEGAL STANDING OF NRC'S CONCURRENCE? WILL DOE'S POLICY ON THE PDS HAVE ANY OTHER IMPLICATION WITH REGARD TO NRC'S ROLE IN THE PROGRAM?

ANSWER.

AS INDICATED IN OUR RESPONSE TO QUESTION 2, THE CHANGE IN DOE'S POSITION ON THE TIMING OF THE PRELIMINARY DETERMINATION DOES NOT CHANGE NRC'S PRIOR CONCURRENCE WITH DOE'S SITING GUIDELINES. BECAUSE THE GUIDELINES WITH WHICH THE COMMISSION CONCURRED DO NOT ADDRESS THE TIMING QUESTION, DOE'S CURRENT POSITION DOES NOT HAVE THE LEGAL EFFECT OF RETRACTING NRC'S PREVIOUS CONCURRENCE. DOE'S POLICY IS NOT LIKELY TO HAVE ANY OTHER IMPLICATIONS WITH REGARD TO NRC'S ROLE IN THE PROGRAM EXCEPT IN THE UNLIKELY EVENT THAT LEGAL CHALLENGES TO DOE'S PRELIMINARY DETERMINATION REMAIN UNRESOLVED AT THE NRC CONSTRUCTION AUTHORIZATION STAGE AND ONLY ONE OR TWO SITES REMAIN VIABLE. SHOULD THIS OCCUR, NRC WOULD NEED TO DECIDE WHETHER TO ENTERTAIN A CHALLENGE TO DOE'S PRELIMINARY DETERMINATION AS PART OF ITS NEPA RESPONSIBILITIES. NRC IS REQUIRED TO ACCEPT DOE'S ENVIRONMENTAL IMPACT STATEMENT "TO THE EXTENT PRACTICABLE."

QUESTION 5. HAS THE NRC CONSIDERED THE MERITS OF A PDS SCENARIO INVOLVING A DETERMINATION BEING MADE AT SOME INTERMEDIATE POINT--BEFORE A SITE HAS BEEN FULLY CHARACTERIZED, BUT AFTER THE FIRST EXPLORATORY SHAFT HAS BEEN CONSTRUCTED--SUCH AS THE OPTION IDENTIFIED BY THE OFFICE OF TECHNOLOGY ASSESSMENT? WHAT ARE THE PROS AND CONS OF SUCH AN APPROACH?

ANSWER.

THERE ARE SEVERAL SPECIFIC MILESTONES AFTER BEGINNING OF SITE CHARACTERIZATION WHERE DOE COULD LOGICALLY CHOOSE TO MAKE A FINDING THAT THOSE SITES ARE SUITABLE FOR DEVELOPMENT AS REPOSITORIES CONSISTENT WITH THE SITING GUIDELINES AS THE RECENT OFFICE OF TECHNOLOGY ASSESSMENT'S REPORT SUGGESTS. SITE CHARACTERIZATION WILL CONSIST OF A SEQUENCE OF DISCRETE ACTIVITIES OR PHASES EACH OF WHICH WILL PROVIDE SIGNIFICANT GEOTECHNICAL INFORMATION ON SITE-SPECIFIC FEATURES BEYOND THAT AVAILABLE PRIOR TO SITE CHARACTERIZATION. DOE COULD SELECT, AS A MILESTONE, THE COMPLETION OF CONSTRUCTION AND TESTING OF THE FIRST EXPLORATORY SHAFT AT EACH SITE (AND PARALLEL SURFACE BASED TESTING) AS AN APPROPRIATE POINT AT WHICH TO MAKE THE PRELIMINARY DETERMINATION. THE CONSTRUCTION OF THE SHAFTS ALONE WILL GENERATE CONSIDERABLE DATA ON THE ROCK CHARACTERISTICS AND HYDROLOGIC CONDITIONS.

AN ADVANTAGE OF THIS OPTION WOULD BE THAT DOE COULD IMPROVE ITS CONFIDENCE THAT THE SITES WOULD BE SUITABLE AND PERHAPS AVOID LITIGATION OVER THE TIMING QUESTION. A MAJOR DISADVANTAGE IS THAT, SHOULD A SITE BE FOUND UNSUITABLE, DOE WOULD HAVE TO CHARACTERIZE AN ADDITIONAL SITE INCURRING SUBSTANTIAL DELAY AND ADDITIONAL COSTS.

QUESTION 6. IS THE MISSION PLAN REALISTIC IN ITS ESTIMATES OF THE MAJOR PHASES OF REPOSITORY DEVELOPMENT (I.E., CHARACTERIZATION, STATE AND CONGRESSIONAL CONCURRENCE, LICENSING AND CONSTRUCTION)? IS ITS CONSIDERATION OF POTENTIAL IMPACTS ON THE SCHEDULE ADEQUATE? IS IT A CONSERVATIVE APPROACH?

ANSWER.

WHILE DOE CONSIDERS ALTERNATIVE SCENARIOS IN ITS EVALUATION OF POTENTIAL IMPACTS ON SCHEDULE, THE REFERENCE MISSION PLAN SCHEDULE FOR REPOSITORY DEVELOPMENT IS, AS RECOGNIZED BY DOE, VERY AGGRESSIVE AND OPTIMISTIC. THE AGGRESSIVE SCHEDULES FOR THE SITE CHARACTERIZATION PHASE WILL REQUIRE DOE TO TAKE A REASONABLY CONSERVATIVE APPROACH TO ITS TECHNICAL WORK TO ACCOUNT FOR THE FULL RANGE OF UNCERTAINTY THAT EXISTS AT EACH OF THE SITES BEING CHARACTERIZED. BEFORE WE CAN DETERMINE IF A CONSERVATIVE APPROACH IS BEING TAKEN, WE NEED TO SEE THE SITE CHARACTERIZATION PLAN THAT THE NUCLEAR WASTE POLICY ACT REQUIRES DOE TO DEVELOP. THE NRC STAFF WILL BE CONSULTING WITH DOE ON ITS DEVELOPMENT OF DETAILED TEST PLANS TO ASSURE THAT TECHNICAL AND SITE ISSUES AND THE NEEDED TESTING ARE IDENTIFIED EARLY AND NOT LATE IN THE SITE CHARACTERIZATION PROGRAM WHERE IT WOULD BE MOST DISRUPTIVE TO THE PROGRAM SCHEDULES.

WITH RESPECT TO NRC REVIEW OF DOE'S LICENSE APPLICATION FOR CONSTRUCTION AUTHORIZATION, THE MISSION PLAN HAS SHORTENED THE ALLOTTED PERIOD FROM THE 36 MONTHS ESTABLISHED IN THE NWPA TO 27 MONTHS. THE NRC IS COMMITTED TO MAKING THE LICENSING REVIEW AS EFFICIENT AS POSSIBLE. NRC CONTINUES TO BELIEVE, HOWEVER, THAT THE THREE YEARS (36 MONTHS) PROVIDED BY THE NWPA IS A VERY OPTIMISTIC ESTIMATE FOR THE TIME REQUIRED TO REACH A LICENSING DECISION ON REPOSITORY CONSTRUCTION. MEETING THIS SCHEDULE WILL BE HIGHLY DEPENDENT UPON THE SUBMITTAL BY DOE OF AN ACCEPTABLE, COMPLETE, AND HIGH QUALITY APPLICATION AND ON THE ABILITY OF THE DOE TO MAKE ITS CASE FORCEFULLY AND EFFECTIVELY IN ADJUDICATORY HEARINGS BEFORE THE LICENSING BOARD. WE HAVE NOT YET IDENTIFIED ANY WAY IN WHICH THE LICENSE REVIEW PERIOD CAN BE REDUCED FROM THE 36 MONTH STATUTORY PERIOD. WE INTEND TO CONTINUE OUR EFFORTS TO WORK WITH DOE TO IDENTIFY AND IMPLEMENT WAYS TO HELP MAKE THE LICENSING PROCESS AS EFFICIENT AS POSSIBLE, CONSISTENT WITH OUR INDEPENDENT REGULATORY RESPONSIBILITY.

Commissioner Asselstine's Views on
Questions 2, 3 and 4

I disagree with the Commission's position that there is no need to modify the Commission's July 10, 1984 decision concurring in DOE's site selection guidelines in light of the Department's change in position regarding the timing of the preliminary determination of site suitability under section 114 (f) of the Nuclear Waste Policy Act. At a minimum, I believe that the Commission should have directed DOE either to conform to the 1984 agreement on the timing of the preliminary determination or to submit for Commission concurrence a formal request to modify the site selection guidelines to incorporate DOE's new position on the timing of the preliminary determination. There are four relevant questions regarding the timing of the preliminary determination. First, was there an agreement between the Commission and DOE on the timing of the preliminary determination at the time of the Commission's concurrence in DOE's site selection guidelines? Second, was this agreement a condition of the Commission's concurrence in the site selection guidelines? Third, is the DOE's change in position on the timing of the preliminary determination a matter exclusively within DOE's program management discretion, or does the NRC have a regulatory interest in this matter as well? And finally, should the preliminary determination of site suitability be made before or after site characterization?

The first question arises because during the Commission's July 29, 1985 meeting with DOE to discuss the Department's mission plan for the

high-level waste disposal program, the Department took the position that there had not been an agreement between DOE and NRC on the timing of the preliminary determination at the time of the Commission's concurrence in the site selection guidelines. DOE expressed the view that it had been the Department's position all along that the timing of the preliminary determination should be deferred until a later date. It is clear that there was an agreement in June 1984 between DOE and NRC that the preliminary determination should be made after rather than before site characterization. This agreement was stated in the Commission's July 10, 1984 decision which concurred in the DOE site selection guidelines. DOE did not object to the Commission's characterization of the agreement at that time. Moreover, the transcript of the Commission's discussions with DOE on the site selection guidelines on June 22, 1984 contains clear statements by DOE that the preliminary determination of site suitability should be made after completion of site characterization. During that meeting, DOE acknowledged that the preliminary determination should be made after site characterization because that is the point in time when enough data about the site is available to make the preliminary determination a meaningful statement. The transcripts of the June 22, 1984 Commission meeting as well as the Commission's July 10, 1984 concurrence decision clearly show that there was an agreement between DOE and NRC on the timing of the preliminary determination, and that this agreement was based upon a judgment that site characterization was necessary to obtain the technical information needed to support the preliminary determination of site suitability.

On the second question, it is also clear that the agreement between DOE and NRC on the timing of the preliminary determination was a condition of the Commission's concurrence in the DOE site selection guidelines. The majority places great weight on the fact that the Commission failed to label the agreement as a "concurrence condition" in the July 10, 1984 Commission decision, and did not insist that the agreement be written into the guidelines themselves. The fact remains, however, that the Commission included the agreement in the concurrence decision and required the removal from the guidelines of a statement calling for the preliminary determination to be made before site characterization. The context in which the Commission's concurrence decision was made further supports the interpretation that the agreement was a condition of concurrence. Despite all of the Commission's other conditions of concurrence, which had been published for comment, the affected states remained unanimously opposed to the DOE site selection guidelines. They argued that despite NRC's other proposed concurrence conditions, the site selection guidelines were too vague and failed to specify the type and amount of information needed to determine whether the guidelines were met. As the transcript of the Commission's June 22, 1984 meeting demonstrates, the unanimous opposition by the states to the guidelines was a matter of great concern to the Commission, and the agreement on the timing of the preliminary determination was the means chosen by the Commission to address these state concerns and permit Commission concurrence in the guidelines.

On the third question, the Commission has a direct regulatory interest in the timing of the preliminary determination and this is not a matter within

DOE's exclusive discretion. The Commission's regulatory interests in this issue are threefold. First, the Commission has the statutory responsibility under the Nuclear Waste Policy Act to concur in the DOE site selection guidelines. The purpose of this concurrence responsibility is to provide an independent check of DOE's site screening and site selection process. As described above, the Commission determined that the preliminary determination should be made after rather than before site characterization to ensure an effective site selection process. The states pointed out flaws in DOE's site selection guidelines, and the Commission's decision on the timing of the preliminary determination was an attempt to compensate for these flaws.

Second, the Commission has a direct stake in ensuring that DOE's site selection process works effectively to identify good sites that have a high potential as candidates for repository development, and to screen out poor or marginal sites or sites with features that may make it difficult to demonstrate their suitability for repository development. In a very real sense, the quality of DOE's license application and the prospects for an efficient and successful licensing proceeding depend upon how well DOE does its job in selecting sites for characterization. We simply cannot afford to allow DOE to proceed with a weak or flawed site selection process that permits the selection of poor, marginal or unduly complex sites.

Third, the Commission has an independent legal responsibility under the National Environmental Policy Act to consider alternate sites for the repository in its licensing review of the DOE application. While the

Nuclear Waste Policy Act puts some bounds on NRC's NEPA review, it does not discharge the Commission from its legal responsibility to consider alternate sites in making its license decision on the DOE application for the repository. Given these three regulatory interests, the timing of the preliminary determination is, both as a legal and a technical matter, an integral part of the Commission's licensing and safety responsibilities under the NWPA and NEPA.

On the fourth question, there are four reasons why the preliminary determination of site suitability should be made after rather than before site characterization. First, DOE's current approach is legally impermissible under the Nuclear Waste Policy Act. While the statute is not entirely clear on the subject and while the legislative history is somewhat limited given the absence of a conference on the House and Senate bills, I believe that the better legal view is that DOE cannot make the preliminary determination before obtaining the detailed information about key site characteristics, including the geology, that will become available through site characterization.

Second, from a technical standpoint, it makes no sense to make the preliminary determination of site suitability before site characterization. As the states have pointed out to the Commission, there is very limited information on many of these sites at the present time, particularly concerning geology and hydrology. Our technical staff has advised us that there are significant uncertainties about the key characteristics of each of these sites given the limited information that is available now. As a

practical matter, this information is not sufficient to support a determination of site suitability for repository development.

Third, making the preliminary determination before site characterization thwarts the purpose of the statutory provision, which was to ensure the consideration of reasonable alternatives. By permitting one or two of the sites selected for characterization to drop out perhaps early in the site characterization process and by eliminating the requirement in such circumstances to examine other sites in detail before selecting the site for the first repository, the DOE approach in effect makes the consideration of alternate sites under NEPA a meaningless exercise.

Finally, making the preliminary determination after site characterization, or at least after substantial site characterization work is done, strengthens the site selection process. It provides a strong incentive for DOE to select good potential sites and it assures that the site suitability determination considers the full range of relevant site characteristics, including geologic factors. Making the preliminary determination of site suitability before site characterization, as DOE proposes, will mean that some significant factors, such as the geology and hydrology of the site, will be given little weight due to the limited information available on these characteristics. This approach undermines the validity of the site selection process. For these four reasons, I believe that the preliminary determination of site suitability should be made after rather than before site characterization.

STATEMENT OF COMMISSIONER ZECH

I was not a Commissioner at the time of the June 22, 1984 meeting when some of the events which are discussed in Commissioner Asselstine's Views occurred. Understandably, therefore, I am not in a position to comment on what transpired at that meeting. However, as I now see the situation, I am satisfied that the timing of the preliminary determination is largely a Department of Energy programmatic matter. I have not been advised of either a legal or a technical need for a concurrence in the adequacy of the siting guidelines to depend upon the timing of the preliminary determination. In my judgment the issues are separate and are not mutually dependent on each other.

Regardless of how one decides the issue of the timing of the preliminary determination, I am convinced that the Nuclear Regulatory Commission can and will carry out its independent licensing and regulatory responsibilities consistent with the responsibilities assigned to it under the Nuclear Waste Policy Act.

I therefore believe the Department of Energy's position on the timing of the preliminary determination is a programmatic and scheduling matter under that Department's cognizance. If this issue is to be resolved differently, then in my judgment this is the responsibility ultimately of Congress.

If the NRC has problems with the guidelines, these problems should be addressed directly and not indirectly by injecting itself in the Department's programmatic decisions. If there are significant problems in the

guidelines they would remain no matter when the preliminary determination is made.

I am not aware of any significant problem which our technical staff has with the guidelines or of any valid reason why I should not concur in them. Accordingly, had I been a Commissioner when a majority concurred in the guidelines, I would have joined them, but would not have supported taking a position one way or the other on the timing of the Department's preliminary determination.