



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

Mac

October 6, 1978

MEMORANDUM FOR: Chairman Hendrie
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Bradford
Commissioner Ahearne

FROM: Ken Pedersen *KP*

SUBJECT: OPE COMMENTS ON "EDITED POLICY STATEMENT FROM SECY-78-366"
(SECY-78-366B)

You have recently received from the staff a re-draft of the proposed policy statement on Geologic Repositories for High Level Wastes reflecting the changes which you requested in a recent Commission policy session with the staff. In particular, at your request, the staff has now explicitly referred to the DOE's planned WIPP facility, but in a very brief footnote. I believe that rather than stating that NRC does not now have jurisdiction over licensing for WIPP, the statement should more properly indicate that, depending upon the waste activities which would be carried on at the WIPP, NRC may or may not be licensing WIPP under existing statutes.

I also believe the Commission may want to say a little bit more about the factors determining whether or not it will be required to license WIPP. These facts may be of interest to the responding public who may not heretofore have been aware of this aspect of the WIPP issue. The WIPP licensing issue was raised by Senator Domenici and answered by the Commission last May. An option which you may wish to consider is to extract salient portions of the Commission's May 5 analysis of WIPP licensing contained in the letter to Senator Domenici for inclusion in the policy statement. In this regard, I have attached a proposed re-draft of the Supplemental Information page (page 2) for your consideration as well as the Commission's May 5 letter.

Secondly, I believe that the proposed inclusion on page 5 of the policy statement should be revised to indicate that the NRC comprehensive licensing review will be necessary "...because loss of integrity in any part of a repository may will imperil the integrity of the entire repository."

Enclosures:
As stated

cc: James Kelley
Sam Chilk

CONTACT:
Dennis [unclear] (OPE)
624-3295

9401050400 931116
PDR COMMS NRCC
CORRESPONDENCE PDR

~~SUPPLEMENTAL INFORMATION: The Commission has licensing authority under Section 202(3) and 202(4) of the Energy Reorganization Act of 1974 over certain DOE repositories for the storage of high-level radioactive wastes.*~~

The Commission is considering the procedures to be used in the licensing of such high-level waste repositories, and believes that it would be useful to solicit the views of interested persons prior to making any final decision. Accordingly, the Commission is publishing for comment the Proposed General Statement of Policy on high-level radioactive waste repository licensing procedures set forth below. The Proposed General Statement of Policy could also be used by DOE for interim planning purposes pending a final Commission decision on repository licensing procedures.

Under present statute, it is not clear whether NRC would have licensing authority over DOE's planned Waste Isolation Pilot Plant (WIPP) proposed to be located at Carlsbad, New Mexico. However, if the WIPP facility is subject to NRC licensing, NRC expects to apply these procedures in the licensing review.

NRC licensing authority over DOE waste management activities is derived from Section 202(3) and 202(4) of the Energy Reorganization Act of 1974. These sections confine NRC licensing authority over DOE waste management activities to certain DOE facilities for receipt and storage of high level radioactive waste. If WIPP is to be used exclusively for disposal of trans-uranic wastes from the defense program and 1,000 commercial spent fuel rod assemblies, then WIPP might not be licenseable. While the 1,000 commercial

spent fuel rod assemblies would be "high level radioactive waste,"* the transuranic wastes would not be, and the facility would not be "primarily" for receipt and storage of "high level radioactive wastes" (Section 202(3) of the Energy Reorganization Act). If WIPP is to be used for disposal of defense program high level wastes, then it would be licenseable under Section 202(4) of the Act provided it was not "used for, or...part of, research and development activities." It is possible that, depending upon the exact program proposed by DOE, WIPP could be regarded as a research and development facility exempt from licensing.

~~Any person wishing to comment on the proposed procedures should submit written comments by (insert date 60 days after publication in the Federal Register) to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section. [This paragraph is proposed for elimination since it duplicates information contained on the previous page.]~~

~~*NRG does not at present have jurisdiction over licensing of the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. However, if NRG receives licensing jurisdiction over WIPP, NRG expects to apply these procedures in the licensing review.~~

* Even though spent fuel which is to be disposed of in a geologic repository may have some resource value, it contains radioactive waste. Thus, it is clearly a "high level" radioactive waste because it contains all the toxic and long-lived radionuclides contained in the liquid wastes from reprocessing that have traditionally been regarded as a form of high level radioactive waste.



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

May 5, 1978

OFFICE OF THE
CHAIRMAN

The Honorable Pate V. Domenici
United States Senate
Washington, D.C. 20510

Dear Senator Domenici:

I am pleased to respond to your letter, dated May 1, 1978, asking the views of the Commission on whether NRC now has clear and unquestioned authority to license the DOE Waste Isolation Pilot Plant (WIPP) facility for the following activities: (1) geologic disposal of transuranic wastes from the defense program; (2) test disposal of up to 1,000 spent fuel rod assemblies; or (3) ultimate disposal of high level wastes from the defense program.

NRC licensing authority over DOE waste management activities is derived from section 202(3) and 202(4) of the Energy Reorganization Act of 1974. These sections confine NRC licensing authority over DOE waste management activities to certain DOE facilities for receipt and storage of "high level radioactive waste". This term "high level radioactive waste" is not defined in the Act, and there is no consistent guidance on the meaning of the term in the legislative history of the Reorganization Act.

Even though spent fuel which is to be disposed of in a geologic repository may have some resource value, it contains radioactive waste. Thus, it is clearly a "high level" radioactive waste because it contains all the toxic and long-lived radionuclides contained in the liquid wastes from reprocessing that have traditionally been regarded as a form of high level radioactive waste.

On the other hand, transuranic wastes have traditionally been distinguished from "high level radioactive waste" and treated, in the regulations, as a separate category of radioactive waste (see, for example, the AEC-proposed rulemaking notice on the subject "Transuranic Waste Disposal", 39 F.R. 32921 (Sept. 12, 1974)).

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Thus, while the law is unclear on the point, it is the Commission's view that spent fuel to be disposed of in a geologic repository could properly be regarded as "high level radioactive waste", but that transuranic wastes probably cannot be regarded as "high level radioactive wastes". This is despite the fact that for the purposes of protecting the public health and safety, the distinction between high level radioactive wastes and transuranic wastes is of limited significance. Both types of material contain significant quantities of long-lived transuranium elements which remain hazardous for periods of time which are extremely long in terms of human chronology.

In answer to your specific questions, if WIPP is to be used exclusively for disposal of transuranic wastes from the defense program and 1000 commercial spent fuel rod assemblies, then WIPP might not be licenseable. While the 1000 commercial spent fuel rod assemblies would be "high level radioactive waste", the transuranic wastes would not be, and the facility would not be used "primarily" for receipt and storage of "high level radioactive wastes". Section 202(3) of the Energy Reorganization Act.

If WIPP is to be used for disposal of defense program high level wastes, then it would be licenseable under section 202(4) of the Act provided it was not "used for, or ... part of, research and development activities". It is possible that, depending upon the exact program proposed by DOE, WIPP could be regarded as a research and development facility exempt from licensing.

The following amendment to section 202 of the Energy Reorganization Act, which we have drafted in response to your request, would provide an unambiguous basis for licensing jurisdiction over WIPP.

"(5) The Waste Isolation Pilot Plant proposed to be located near Carlsbad, New Mexico"

Should there be a significant change in the WIPP proposal--for example, should the location be changed--then new legislation would be necessary. However, the language proposed above has the advantage of retaining the present language in section 202 and thereby avoiding any unintended impact on future facilities other than WIPP.

The staff currently has under preparation a paper which addresses the need for additional legislative authority in the waste management area. This evaluation will include consideration of the desirability of extending NRC licensing authority over DOE waste management activities. I expect that the Commission will consider this matter in the near future.

Sincerely,

Original signed by
Joseph M. Hendrie

Joseph M. Hendrie
Chairman

October 3, 1978

UNITED STATES
NUCLEAR REGULATORY COMMISSION

SECY-78-366B

Cia

CONSENT CALENDAR ITEM

For: The Commissioners

From: Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety and Safeguards

Thru: Executive Director for Operations *W. J. Duchs*

Subject: EDITED POLICY STATEMENT FROM SECY 78-366

Purpose: To Obtain Commission Approval for Publication in
Federal Register

Discussion: As the Commission requested during the September 15, 1978 briefing, we have made minor revisions to the policy statement accompanying Commission Paper SECY 78-366, Licensing Procedures for Geologic Repositories for High-Level Wastes. Enclosed is the edited policy statement, a press release to accompany the publication of the policy statement, and a current working draft of the High-Level Waste Management Regulations (Part 60) which are being prepared. This version of the draft Part 60 is still under development and has not been circulated for office-level review.

Recommendation: Approve publication of Policy Statement as edited (Enclosure 1).

Note

- (a) The proposed notice will be published in the Federal Register for a 60 day public comment period.
- (b) The Subcommittee on Energy and the Environment of the House Interior and Insular Affairs Committee and the Subcommittee on Nuclear Regulation of the Senate Committee on Environmental and Public Works will be informed.

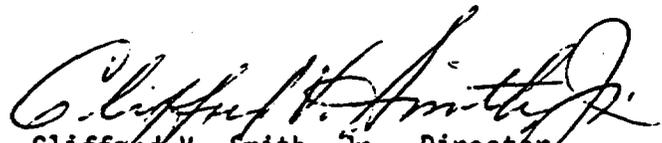
Contact:

James C. Malaro, NMSS
427-4433

78/1030253 17pp.

- Recommendation:
- (c) A public announcement similar to Enclosure 2 will be issued when notice is filed with the Office of the Federal Register.
 - (d) As modified by public comment and staff analysis of those comments, the procedures would be incorporated into the regulations expected to be issued in proposed form in early 1979.

Coordination: The Office of the Executive Legal Director concurs in the changes made to Enclosure 1. The draft public announcement has been prepared by the Office of Public Affairs.


Clifford V. Smith, Jr., Director
Office of Nuclear Material Safety
and Safeguards

- Enclosures:
- 1. Edited Policy Statement
 - 2. Press Release
 - 3. Current Working Draft of
Waste Management Regulations

DISTRIBUTION
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Commissioners' comments should be provided directly to the Office of the Secretary by cob

Commissioners' comments or consent should be provided directly to the Office of the Secretary by c.o.b. Wednesday, October 18, 1978

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT October 12, 1978, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

This paper is tentatively scheduled for affirmation at an Open Meeting during the Week of October 23, 1978. Please refer to the Appropriate Weekly Commission Schedule, when published, for a specific date and time.

SECY NOTE: Enclosure 3 to Commissioners, OGC, OPE, SECY only.

ENCLOSURE 1

Changes are indicated by underlining

LICENSING PROCEDURES FOR GEOLOGIC REPOSITORIES
FOR HIGH-LEVEL RADIOACTIVE WASTES

Proposed General Statement of Policy

AGENCY: U.S. Nuclear Regulatory Commission

ACTION: Proposed General Statement of Policy

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has under consideration the following proposed policy statement regarding establishment of procedures for licensing a geologic high-level waste repository to be constructed and operated by the U.S. Department of Energy (DOE). This NRC policy statement is intended to inform DOE, interested States and members of the public of the procedures with which DOE will be required to comply to receive a license to construct and operate a repository. The policy, as finally adopted, may be codified as part of the Commission's regulations.

DATE: Comments are due on or before (insert date 60 days after publication in the Federal Register).

ADDRESSES: Send comments and suggestions to: Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Copies of comments may be examined in the: U.S. Nuclear Regulatory Commission Public Document Room, 1717 H Street, N.W., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: James C. Malaro, Chief, High-Level and Transuranic Waste Branch, Division of Fuel Cycle and Material Safety
U. S. Nuclear Regulatory Commission, Washington, D. C. 20555.

301 427-4433.

Proposed General Statement of Policy--
Licensing Procedures for Geologic Repositories
For High-Level Radioactive Waste

Introduction

The U.S. Nuclear Regulatory Commission ("NRC" or "Commission") is vested with licensing authority over certain DOE high-level radioactive waste repositories by Sections 202(3) and 202(4) of the Energy Reorganization Act of 1974. These sections refer to:

- (3) Facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from activities licensed under such Act (Atomic Energy Act).
- (4) Retrievable Surface Storage Facilities and other facilities authorized for the express purpose of subsequent long-term storage of high-level radioactive waste generated by the Administration, which are not used for, or are part of, research and development activities.

Under the Energy Reorganization Act of 1974, as amended, and the Atomic Energy Act of 1954, as amended, such repositories would not be licensed as "production" or "utilization" facilities. Rather, they would be licensed under those provisions of the Atomic Energy Act dealing with receipt and possession of "byproduct" and "special nuclear" materials. However, the Commission has authority under the Atomic Energy Act to fashion procedures for licensing of byproduct and special nuclear materials that are tailored to the kinds of activities being authorized and the

potential hazards involved. For example, although a license for possession and use of plutonium in a sealed calibration source and a license for possession and use of plutonium for purposes of processing and fuel fabrication are both special nuclear materials licenses, the former license may be issued after a single review (and indeed may even be generally licensed without the need for filing and review of a specific license application--see 10 CFR §70.19), while the latter license may only be issued after a review process resembling in many respects the two-step licensing review provided in the Atomic Energy Act for production and utilization facilities (see 10 CFR §70.22[f] and 70.23[b]).

In fashioning the procedures which follow, several unique features of geologic high-level waste repositories were carefully considered. For such a repository, the suitability of the site becomes crucial, for the integrity of the site itself is essential to assure containment of the radioactive materials. Thus, sound policy suggests that the Commission be afforded the opportunity to participate in DOE's site selection process, though--considering the tentative character of the activities involved--only in an informal advisory capacity. Also, for such an application, construction of a repository shaft would constitute the first major penetration of the geologic containment. If improperly constructed or sealed, it could impair the ability of the geologic containment to isolate wastes over long periods of time. At the same time, construction of this shaft is expected to dispell uncertainties in the accuracy of data necessary for design of the underground repository. Thus, while a

safety review prior to sinking of a shaft would be appropriate, the scope of review and the findings required need to take into account the possibility that only limited data may be available. Further, there should be a formal safety review of the main repository design features before substantial commitments are made and alterations become impracticable to implement. Finally, the Commission believes that it should examine the methods of construction and any new information that may have been developed during construction before formally authorizing receipt and storage of radioactive materials at the repository.

If a repository is subject to the NRC licensing authority, the entire repository will be subjected to licensing review including those activities which by themselves might not be within the scope of NRC responsibility. This comprehensive review will be necessary because loss of integrity in any part of a repository will imperil the integrity of the entire repository.

The Commission believes it should prepare an environmental impact statement pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969 ("NEPA") prior to authorizing construction of the main repository shaft. This statement could be updated prior to receipt and storage of radioactive materials at the repository should new information warrant.

Early Notification to States and Other Interested Parties

In order to provide opportunity for early input from States and other interested parties, the Commission would, upon receipt of a DOE license application or request for an informal early site review, (1) publish in the Federal Register a notice of such receipt (2) make a copy of the application or request available at the public document room, and (3) transmit copies of such request to the Governor of the State and to the Chief Executive of the municipality in which the repository is tentatively to be located and to the Governors of any contiguous States. Also, the staff would offer to meet with State and local officials to provide them with information about the Commission's review and to explore the possibilities of State and local participation in the Commission licensing process.

Licensing Procedures

The proposed repository licensing procedures are divided into four parts: review of DOE site selection, review of repository development, repository licensing, and repository closure.

1. Review of DOE Site Selection

There would be informal NRC staff comments to DOE on site suitability matters after DOE's site selection. Such informal consultation, which might take the form of written NRC staff comments supplemented by one or more open meetings between the two agency staffs, would enable the NRC staff to point out those aspects of a location which in its judgement might require special attention or present special problems,

and would help to define the kinds of information that might be needed for the Commission to make licensing decisions. Informal consultation between a prospective license applicant and NRC staff is consistent with the practice presently employed in the case of nuclear power reactors, and would be no less appropriate where the applicant concerned is another government agency.

As indicated, the interaction between NRC staff and DOE at this early stage would be consultive in nature. That is, NRC staff may provide comments and advice, but the Commission will neither make formal findings nor take other formal action. DOE would remain at liberty to come forward later with any proposal that it believed would conform to Commission requirements, and the Commission would be free, as the evidence might warrant, to formally approve or disapprove the proposal.

2. Review of Repository Development

The formal Commission licensing review process would begin with the filing of an application for a license by DOE prior to commencement of construction of a repository shaft. The application would be docketed for review after a preliminary review for completeness, notice of the application would be published in the Federal Register offering an opportunity for interested persons to intervene and request a hearing, and a public announcement would be issued.

The application would include information on site suitability and repository design features important to safety. An environmental report prepared by DOE addressing the matters set forth in Section 102(2)(C) of NEPA would be submitted with or prior to the application.

It is probable that some information necessary to make a definitive finding of the repository's safety will not then be available. Nevertheless, the Commission* could authorize construction of the repository upon completion of a review of all NEPA, safety, and common defense and security issues, and upon finding (1) after considering reasonable alternatives that the benefits of the proposal exceed the costs under NEPA, and (2) that there is reasonable assurance that the types and amounts of wastes described in the application can be stored in a repository of the design proposed without unreasonable risk to the health and safety of the public or being inimical to the common defense and security. Construction would commence with the sinking of the main repository shaft. In the alternative, where insufficient information is available prior to shaft sinking to permit the Commission to make the complete findings set forth above, on request by DOE or on the Commission's own initiative, the Commission could allow the safety review to be conducted in two phases. Construction of the shaft could commence upon finding (1) after considering reasonable alternatives, that the benefits of the proposal exceed the costs under NEPA, and (2) that there is reasonable assurance that: (a) the site

*It is expected that, should a hearing be granted on an application, the Commission would, as in a nuclear power reactor licensing proceeding, designate an Atomic Safety and Licensing Board to hear and initially decide the contested issues. As in any licensing case, it would be possible for the Board to render partial decisions on several discrete issues, such as NEPA issues, where this would advance the conduct of the proceeding.

is suitable for a repository within which high-level wastes of the kinds and quantities described in the application can be stored without unreasonable risk to the health and safety of the public or being inimical to the common defense and security, and (b) the plans for construction of the main shaft and related structures can be implemented in a manner compatible with the use of the site for a repository. The full findings set forth previously would, then, have to be made before the start of construction of surface and underground structures. Safety issues that could not be resolved based upon the available information might be deferred until the repository operation review provided that: (1) an adequate program has been developed to resolve the issue prior to that time, and (2) there is reasonable assurance that the issue can be resolved in a favorable manner at the later date.

The NEPA environmental review would address, to the extent possible based on available information, environmental impacts and alternatives associated directly or indirectly with siting, construction, and operation of the repository. Any hearing held upon request of an interested person would be conducted in accordance with subpart G of 10 CFR Part 2.

The applicant will be required to report to the NRC, during the course of construction, any site characterization data obtained which is not within the predicted limits upon which the repository design was based. Also, it would be required to report deficiencies in design and construction which, if uncorrected, could have a significant

adverse effect upon the safety of the repository at any future time.

3a. Repository Licensing

Prior to receipt of any radioactive material at the repository, DOE will need to file an updated license application with the Commission. The license authorizing actual receipt and storage of radioactive materials would be issued after the Commission has conducted a final review of health and safety and common defense and security issues in the light of (1) any additional geologic, hydrologic, and other data obtained during construction; (2) conformance of construction of repository structures, systems, and components with the earlier received design; (3) results of research programs carried out to resolve questions identified during prior reviews; (4) plans for start up and routine operations; and (5) plans for identifying and responding to any unanticipated releases of radioactive material from the repository. Issuance of a license will require a definitive finding under the Atomic Energy Act that the receipt, possession, and use of the special nuclear and byproduct materials at the repository will not constitute unreasonable risk to the health and safety of the public or be inimical to the common defense and security. If warranted by new information, the earlier environmental impact statement will be updated. Also, if requested by a person whose interest may be affected, a hearing in accordance with subpart G of 10 CFR Part 2 would be held prior to license issuance.

3b. License Amendment (As Needed)

If special restrictions such as retrievability or a limit on amounts or types of wastes have been imposed in the license, an amendment will be required prior to committing waste to irretrievable disposal or prior to the receipt of additional waste. It is anticipated that the required review procedures and findings will be similar to those described above for initial licensing, taking into account additional information obtained during the retrievable storage phase or during operation with limited inventory.

DOE will be required to conduct and monitor its operations, to keep records and to submit routine and special reports, in accordance with Commission regulations and orders. All operations will be subject to such continuing NRC inspection activities as may be found to be appropriate.

4. Review of Repository Closure

After the repository has been developed and filled to maximum capacity but prior to final closure of the underground excavations and shafts and the decommissioning of surface facilities an NRC review and approval will be required. This review will require compliance with regulations governing sealing of the underground repository, decommissioning of surface facilities, storage of permanent records, and long-term monitoring. Following completion

of repository closure procedures, requirements for a license
may be ended.

Dated at _____ this _____ day of _____, 1978.

FOR THE U.S. NUCLEAR REGULATORY
COMMISSION

Samuel J. Chilk
Secretary of the Commission

ENCLOSURE 2

NRC ISSUES PROPOSED POLICY STATEMENT
ON PROCEDURES FOR REVIEWING WASTE REPOSITORY APPLICATIONS

The Nuclear Regulatory Commission has issued a proposed policy statement on procedures for reviewing a possible application from the Department of Energy (DOE) for a license for a high-level nuclear waste repository.

The policy statement is being issued in proposed rather than final form so that the Commission can obtain the views of interested parties and the public before making a final decision as to the procedures that will be followed in reviewing the application. The proposed statement may also be used by DOE for interim planning purposes until a final statement is issued.

The proposed repository licensing procedures are divided into four steps:

(1) NRC and DOE staff members would consult informally on site suitability matters after DOE selected a site for the repository. (No application for a license would be before NRC at this point, and NRC would not give any formal approvals.)

(2) When DOE submits an application for a license, NRC staff would conduct a formal safety and environmental review and would prepare an environmental impact statement. Notice of receipt of the application would be published in the Federal Register, and interested persons would be offered an opportunity to intervene and request that a public hearing be held. If the Commission made a satisfactory finding with regard to the effects on the public health and safety and the environment from

constructing and operating the repository, and if it found that the repository would not be inimical to the common defense and security, it would authorize sinking of the main repository shaft and construction of surface and underground structures.

(3) NRC staff would conduct another formal safety review and make any necessary updates to the environmental impact statement before the Commission could authorize DOE to receive waste for storage in the facility. Interested parties would again be given an opportunity to request a hearing before the license was issued.

(4) After the repository had been developed and its capacity filled, but prior to its final closing and decommissioning, NRC staff would conduct a review and, if appropriate, the Commission could approve the closing and terminate the license.

Interested persons are invited to submit written comments on the proposed policy statement by _____ to the Secretary of the Commission, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Docketing and Service Section.

After considering the comments received, the Commission expects to either publish the policy statement in final form or issue proposed rules on the waste repository review procedures.