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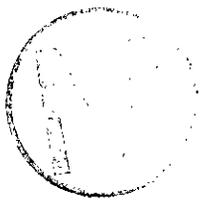
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DOE (U.S. Department of Energy), 1980. Final Environmental Impact Statement, Waste Isolation Pilot Plant, DOE/EIS-0026, Volumes 1 and 2, Office of Environmental Restoration and Waste Management, Washington, D.C. WPO 38835, WPO 38838, and WPO 38839.

p 1-2, Section 1.2.1 1980 WIPP FEIS

" The 1980 WIPP Final Environmental Impact statement (FEIS) and the associated public review and comment period provided environmental input for the DOE's initial decision to proceed with the WIPP (DOE, 1980). The significance of impacts associated with the various alternatives was assessed. For the selected alternative, a two-phased approach to development was proposed: 1) a site and preliminary design validation (SPDV) program, as discussed in Subsection 8.2.1 of the FEIS, and 2) full construction, as discussed in FEIS Subsection 8.2.2. The durations of key WIPP activities are shown in Figure 1.1.

The 1980 FEIS presented an analysis of the environmental impacts of a number of alternatives for demonstrating the safe disposal of TRU waste. The alternatives considered include:

- Alternative 1. No action. A research and development facility to demonstrate safe disposal of TRU waste would not be developed and post-1970 TRU waste would continue to be retrievably stored.
- Alternative 2. Developing the WIPP at the Los Medanos site in southeastern New Mexico.
- Alternative 3. Disposing of stored TRU waste in the first available repository for high-level radioactive waste.
- Alternative 4. Delaying a decision on the site for a WIPP until at least 1984 to allow for investigation of alternative sites.

Alternative methods and geologic media for TRU waste disposal were also considered but rejected in the FEIS. The alternative methods included burial in deep ocean sediments, emplacement in deep drillholes, transmutation, and ejection into space. The alternative geologic media included igneous, volcanic, and argillaceous rocks.

The DOE's Record of Decision, published January 28, 1981 (46 FR 9162), announced the DOE's selection of Alternative 2: to proceed with the phased development of the WIPP at the Los Medanos site in southeastern New Mexico. . . ."

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DOE (U.S. Department of Energy), 1981. Waste Isolation Pilot Plant: Record of Decision. Federal Register, Vol. 46, No. 18, p. 9162, January 28, 1981. Office of Environmental Restoration and Waste Management, Washington, D.C.

p. 9162, col. 3;

" This Record of Decision has been prepared on the Waste Isolation Pilot Plant (WIPP) Project pursuant to Regulations of the Council on Environmental Quality, 40 CFR 1505.

DECISION

The U.S. Department of Energy (DOE) has decided to proceed with the WIPP project at the Los Medanos Site in the Delaware Basin of southeast New Mexico as directed by the U.S. Congress in Public Law 96-164 'Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980'. The WIPP project, which is described as alternative 2 in the Final Environmental Impact Statement (FEIS), DOE/EIS-0026, October, 1980, will be developed 'as a defense activity of the DOE for the express purpose of providing a research and development facility to demonstrate the safe disposal of radioactive wastes resulting from defense activities and programs of the United States' Public Law 96-164. Construction of permanent surface and underground facilities will proceed on a phased basis consistent with the evaluation of data obtained during the Site and Preliminary Design Validation (SPDV) program as defined in the FEIS. If significant new environmental data results from the SPDV program or other WIPP project activities, the FEIS will be supplemented as appropriate to reflect such data, and this decision to proceed with phased construction and operation of th (sic) WIPP facility will be reexamined in the light of the supplemental National Environmental Policy Act (NEPA) review."

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EPA (U.S. Environmental Protection Agency), 1985. "40 CFR Part 191: Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes: Final Rule." Federal Register, Vol. 50, No. 182, pp. 38066-38089, September 19, 1985, Office of Radiation Programs, Washington, D.C. WPO 39132.

SUMMARY, p. 38066, col. 1;

" The Environmental Protection Agency (EPA) is promulgating generally applicable environmental standards for the management and disposal of spent nuclear fuel and high-level and transuranic wastes. The standards apply to management and disposal of such materials generated by activities regulated by the Nuclear Regulatory Commission (NRC) and to disposal of similar materials generated by atomic energy defense activities under the jurisdiction of the Department of Energy (DOE). These standards have been developed pursuant to the Agency's authorities and responsibilities under the Atomic Energy Act of 1954, as amended; Reorganization Plan No. 3 of 1970; and the Nuclear Waste Policy Act of 1982.

Subpart A of these standards limits the radiation exposure of members of the public from the management and storage of spent fuel or high-level or transuranic wastes prior to disposal at waste management and disposal facilities regulated by the NRC. Subpart A also limits the radiation exposures to members of the public from waste emplacement and storage operations at DOE disposal facilities that are not regulated by the NRC.

Subpart B establishes several different types of requirements for disposal of these materials. The primary standards for disposal are long-term containment requirements that limit projected releases of radioactivity to the accessible environment for 10,000 years after disposal. These release limits should insure that risks to future generations from disposal of these wastes will be no greater than the risks that would have existed if the uranium ore used to create the wastes had not been mined to begin with. A set of six qualitative assurance requirements is an equally important element of Subpart B designed to provide adequate confidence that all containment requirements will be met. The third set of requirements are limitations on exposures to individual members of the public for 1,000 years after disposal. Finally, a set of ground water protection requirements limits radionuclide concentrations for 1,000 years after disposal in water withdrawn from most Class I ground waters to the concentrations allowed by the Agency's interim drinking water standards (unless concentrations in the Class I ground waters already exceed limits in 40 CFR Part 141, in which case this set of requirements would limit the increases in the radionuclide concentrations to those specified in 40 CFR Part 141). Subpart B also contains informational guidance for implementation of the disposal standards to clarify the Agency's intended application of these standards, which address a time frame without precedent in environmental regulations. Although disposal of these materials in mined geologic repositories has received the most attention, the disposal standards apply to disposal by any method, except disposal directly into the oceans or ocean sediments.

This notice describes the final rule that the Agency developed after considering the public comments received on the proposed rule published on December 29, 1982, and the recommendations of a technical review conducted by the Agency's Science Advisory Board (SAB). The major comments received on the proposed standards are summarized together with

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the Agency's responses to them. Detailed responses to all the comments received are discussed in the Response to Comments Document prepared for this final rule.

DATE: These standards shall be promulgated for purposes of judicial review at 1:00 p.m. eastern time on October 3, 1985. These standards shall become effective on November 18, 1985."

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EPA (U.S. Environmental Protection Agency), 1993. 40 CFR Part 191 Environmental Radiation Protection Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes; Final Rule. Federal Register, Vol. 58, no. 242, pp. 66398-66416, December 20, 1993, Office of Radiation and Indoor Air, Washington, D.C. WPO 39133.

Federal register, Vol. 58 No. 242, p 66398, dated December 20, 1993

"191.15 Individual protection requirements.

(a) Disposal systems for waste and any associated radioactive material shall be designed to provide a reasonable expectation that, for 10,000 years after disposal, undisturbed performance of the disposal system shall not cause the annual committed effective dose, received through all potential pathways from the disposal system, to any member of the public in the accessible environment, to exceed 15 millirems (150 microsieverts).

(b) Annual committed effective doses shall be calculated in accordance with appendix B of this part.

(c) Compliance assessments need not provide complete assurance that the requirements of paragraph (a) of this section will be met. Because of the long time period involved and the nature of the processes and events of interest, there will inevitably be substantial uncertainties in projecting disposal system performance. Proof of the future performance of a disposal system is not to be had in the ordinary sense of the word in situations that deal with much shorter time frames. Instead, what is required is a reasonable expectation, on the basis of the of the record before the implementing agency, that compliance with paragraph (a) of this section will be achieved.

(d) Compliance with the provisions in this section does not negate the necessity to comply with any other applicable Federal regulations or requirements.

(e) The standards in this section shall be effective on January 19, 1994."

"Subpart C-Environmental Standards for Ground-Water Protection

. . .191.23 General provisions.

(a) Determination of compliance with this subpart shall be based upon underground sources of drinking water which have been identified on the date the implementing agency determines compliance with subpart C of this part.

191.24 Disposal standards.

(a) Disposal systems.

(1) General. Disposal systems for waste and any associated radioactive material shall be designed to provide a reasonable expectation that 10,000 years of undisturbed performance after disposal shall not cause the levels of radioactivity in any underground source of drinking water, in the accessible environment, to exceed the limits specified in 40 CFR part 141 as they exist on January 19, 1994.

(2) Disposal systems above or within a formation which within one-quarter (1/4) mile contains an underground source of drinking water. [Reserved]

(b) Compliance assessments need not provide complete assurance that the requirements

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of paragraph (a) of this section will be met. Because of the long time period involved and the nature of the processes and events of interest, there will inevitably be substantial uncertainties in projecting disposal system performance. Proof of the future performance of a disposal system is not to be had in the ordinary sense of the word in situations that deal with much shorter time frames. Instead, what is required is a reasonable expectation, on the basis of the record before the implementing agency, that compliance with paragraph (a) of this section will be achieved.

..."

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EPA (U.S. Environmental Protection Agency), 1996a. 40 CFR Part 194: Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations; Final Rule. Federal Register, Vol. 61, No. 28, pp. 5224-5245, February 9, 1996. Office of Radiation and Indoor Air, Washington, D.C. In NWM Library as KF70.A35.C751 1966 (Reference).

SUMMARY, p. 5224, col. 1;

" The Environmental Protection Agency (EPA) is promulgating criteria for determining if the Waste Isolation Pilot Plant (WIPP) will comply with EPA's environmental radiation protection standards for the disposal of radioactive waste. If the Administrator of the EPA determines that the WIPP will comply with the standards for disposal, then the Administrator will issue to the Secretary of Energy a certification of compliance which will allow the emplacement of transuranic waste in the WIPP to begin, provided that all other statutory requirements have been met. If a certification is issued, EPA will also use this final rule to determine if the WIPP has remained in compliance with EPA's environmental radiation protection standards, once every five years after the initial receipt of waste for disposal at the WIPP. This rulemaking was mandated by the WIPP Land Withdrawal Act of 1992.



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EPA (U.S. Environmental Protection Agency) 1996b. Compliance Application Guidance for 40 CFR Part 194. EPA 402-R-95-014, March 29, 1996. Office of Radiation and Indoor Air, Washington, D.C. WPO 39159.

INTRODUCTION, p. 1;

" The Compliance Application Guidance (CAG) is a companion to the final rule published at 61 FR 5224, February 9, 1996, 'Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's (WIPP) Compliance With the 40 CFR Part 191 Disposal Regulations' (to be codified at 40 CFR Part 194).

The CAG summarizes and explains the February 9, 1996 final rule. The United States Environmental Protection Agency (EPA) developed this guidance to assist the United States Department of Energy (DOE) with the preparation of any Compliance Certification Application (CCA) for the WIPP and, in turn, to assist in EPA's review of the CCA for completeness and generally to enhance the readability and accessibility of the CCA for EPA and public scrutiny. It is EPA's intent that this guidance will facilitate the understanding that DOE and the public have of the specific information that is expected to be included in a *complete* application for certification of compliance. Examples used for clarification purposes in this guidance should not be considered exhaustive or definitive, since they are provided merely to facilitate DOE's understanding of the types of information EPA is expecting. . . ."

p. 2, para. 2;

" The CAG summarizes and explains EPA's expectations of the format and content of the CCA, based on the February 9, 1996 final rule (hereafter referred to as '40 CFR Part 194'). The technical and legal requirements pertaining to the CCA are addressed by 40 CFR Parts 191 and 194. The CAG's format follows that of 40 CFR Part 194, restating the rule language in *italics*, followed by the specific guidance for that section in standard type. Only those portions of 40 CFR Part 194 (and, by reference, applicable portions of 40 CFR Part 191) for which DOE is required to submit specific information to EPA, are addressed. Portions of 40 CFR Part 194 which are applicable only to EPA, such as Subpart D, were excluded from this guidance.

The information DOE presents in any compliance application must conform to the requirements of 40 CFR Part 194."

ORNL (Oak Ridge National Laboratory). 1973. Site Selection Factors for the Bedded Salt Pilot Plant. ORNL-TM-4219. Oak Ridge National Laboratory, Oak Ridge, TN.

ABSTRACT, p 1;

" Because of the nature of radioactive waste disposal in geologic formations, the selection of suitable sites is a unique exercise totally different from that for any other type of facility. This compilation of the various factors which must be taken into consideration was assembled as an aid in the selection and confirmation of a site for the Bedded Salt Pilot Plant. As might be expected, most of these factors are related to geologic characteristics, which are discussed under the headings of: (1) stratigraphy, (2) structure, (3) hydrology, and (4) mineral resources. Other factors concerned with geography and facility design and operation are also included."

BIBLIOGRAPHY DOCUMENTS

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NAS-NRC (National Academy of Sciences-National Research Council), 1957. Disposal of Radioactive Wastes on Land. Publication 519. National Academy of Sciences, Washington, D.C.

ABSTRACT p 1, para. 2;

" Disposal in cavities mined in salt beds and salt domes is suggested as the possibility promising the most practical immediate solution of the problem."



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U.S. Congress, 1992. Waste Isolation Pilot Plant Land Withdrawal Act, Public Law 102-579, 106 Stat. 4777, October 1992. 102nd Congress, Washington, D.C. WPO 39015.

An Act

To withdraw land for the Waste Isolation Pilot Plant, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SEC. 8. ENVIRONMENTAL PROTECTION AGENCY DISPOSAL REGULATIONS.

(a) REINSTATEMENT.--

(1) **IN GENERAL.--**Except as provided in paragraph (2), the disposal regulations issued by the Administrator on September 19, 1985, and contained in subpart B of part 191 of title 40, Code of federal regulations, shall be in effect.

(d) DISPOSAL REGULATIONS.--

(A) **IN GENERAL.--**The Secretary shall comply at WIPP with the final disposal regulations. Within 7 years of the date of first receipt of transuranic waste at WIPP, the Secretary shall submit to the Administrator an application for certification of compliance with such regulations.

(B) **CERTIFICATION BY ADMINISTRATOR.--**Within 1 year of receipt of the application under subparagraph (A), the Administrator shall certify, by rule pursuant to section 553 of title 5, United States Code, whether the WIPP facility will comply with the final disposal regulations, and sections 556 and 557 of such title shall not apply.

(C) **JUDICIAL REVIEW.--**Judicial review of the certification of the Administrator under subparagraph (B) shall not be restricted by the provisions of section 221 c. of the Atomic Energy Act of 1954 (42 U.S.C. 2271(c)).

(D) **LIMITATION.--**Any certification of the Administrator under subparagraph (B) may only be made after the application is submitted to the Administrator under subparagraph (A)."



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