

January 12, 1999

COMMISSION VOTING RECORD

DECISION SECY-98-225

ITEM:

TITLE: PROPOSED RULE: 10 CFR PART 63 -- "DISPOSAL OF HIGH-LEVEL WASTES IN A PROPOSED GEOLOGIC REPOSITORY AT YUCCA MOUNTAIN, NEVADA"

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the [Staff Requirements Memorandum \(SRM\) of January 12, 1999](#).

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commissioners, and the SRM of January 12, 1999.

Annette Vietti-Cook
Secretary of the Commission

Attachments: 1. Voting Summary
 2. Commissioner Vote Sheets
 3. Final SRM

cc: Chairman Jackson
 Commissioner Dicus
 Commissioner Diaz
 Commissioner McGaffigan
 Commissioner Merrifield
 OGC
 EDO
 PDR
 DCS

VOTING SUMMARY - SECY-98-225

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. JACKSON	X				X	11/17/98
COMR. DICUS	X				X	11/12/98
COMR. DIAZ	X				X	11/2/98
COMR. McGAFFIGAN	X				X	11/13/98
COMR. MERRIFIELD	X				X	11/16/98

COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and provided additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on January 12, 1998.

Chairman Jackson's Comments on SECY 98-225

In its statement of considerations, the staff has appropriately addressed the basis for the NRC rulemaking action at this time, i.e. prior to the EPA issuing standards. The staff makes it clear that it is issuing the NRC proposed rule now, because deferral until EPA standards are in place would make it impossible for NRC to issue final implementing regulations within one year of EPA's action, as specified in the Energy Policy Act. DOE has indicated that NRC regulations providing its approach for the requirements are needed for the national program to proceed without further delay.

I considered issuance of the draft rule without the proposed health and safety standard (25 mrem), because 1) DOE is most interested in a regulation that provides NRC's approach for the requirements, 2) by law, NRC must have regulations that conform to the EPA standards, and 3) perception of some stakeholders is that NRC-published standards at this time are unnecessary. However, the staff has proposed a "placeholder" all-pathways dose standard that is protective of public health and safety, and that maintains consistency with NRC radiological criteria for license termination and other waste management facilities. In addition, the proposed rule is generally consistent with the recommendations of the National Academy of Sciences, and is consistent with the overall movement of the NRC to risk-informed, performance-based regulation. Many times in the FRN, the staff clearly states its recognition of the fact that when the EPA issues its final standards, or if pending legislation affecting the regulation of HLW is passed, these proposed regulations may need to be amended. If changes to the regulation are needed based on the EPA eventual standards, the effect on schedule and resources would be minimal, since the Commission could go to direct final rulemaking for amendment of Part 63.

Therefore, I approve for publication the notice of proposed rulemaking that includes alternative one, i.e., a proposed rule with risk-informed, performance-based criteria (with a "placeholder" 25 mrem standard) for both pre-closure operation and post-closure performance of the Yucca Mountain high-level waste repository.

The staff should clarify in the FRN, in the regulatory analysis, and in the congressional letters its reference to "implementable" standards, to avoid misinterpretation of that term as meaning "able to be met by DOE."

Finally, in this draft FRN, the staff references the ongoing Commission evaluation of the hearing process and the impact this may have on Part 63, but states that it is not seeking comment on this matter in this rulemaking. The staff should not use this rule as a forum for the evaluation of the hearing process that is being addressed as a separate agency-wide action. Since reference to the hearing process evaluation would result in comments on it, the staff should remove discussion of the separate hearing process action from the FRN. This rulemaking should focus on the high-level waste repository issues, and reserve hearing process discussion for any action resulting from the agency-wide evaluation.

Commissioner Dicus' comments on SECY-98-225

I approve publication of the proposed rulemaking, I concur with Commissioner Diaz' comments commending the staff for its work in this matter and the staff's initiative to include risk-informed, performance based criteria for pre-closure operations (alternative 1). I also approve the proposed rulemaking's approach with respect to its equivalent to 10 CFR 50.59. With respect to the nature of the licensing proceeding, I would prefer that the FRN be limited to noting that the matter is under Commission review as part of its broader efforts to improve the effectiveness of NRC programs and processes.

It is important to strive for uniformity in the regulatory process and this is a factor in my decision to approve the adoption of an equivalent to 50.59 contingent on possible future revisions to conform it to revisions to 50.59. The need for uniformity is also a factor in my supporting the proposed radiation protection standards. The FRN should note that the standards are also consistent with those adopted by the NRC for termination of licenses. While the FRN recognizes NRC's statutory mandate to use EPA standards when they are issued, the FRN should make clear the Commission's position that the proposed radiation dose standards (1) are protective of the public health and safety and environment and (2) are consistent with national and international recommendations for radiation protection standards. The FRC should be revised accordingly and a markup is [attached](#). (Please see hard copy for the markup.)

Commissioner Diaz's comments on SECY-98-225

I would like to commend the staff for its analysis of the technical issues associated with deep geologic disposal, and for proposing a rule that employs a feasible and accountable regulatory approach. The proposed rule is the product of many years of comprehensive analysis of the best available science and technology, of interactions with international and national bodies, and of intensive engagements with the Environmental Protection Agency and the Department of Energy. The management of high level radioactive waste (HLW) is a national issue important to the American people. The staff, responsive to the direction set by the Commission, has developed a sound, science-based framework for the Commission to exercise its independent decision-making responsibility in the licensing of a HLW repository. The establishment of effective, efficient, and timely rules that are protective of public health and safety and of the environment are required for the Commission to fulfill its responsibilities. In considering this proposed rule, I have been guided by the NRC's Principles of Good Regulation, including the fundamental notion that the American taxpayer, the rate-paying consumer, and licensees are all entitled to the best possible management and administration of regulatory activities.

The staff's proposal to use risk assessment in the rule will provide the most efficient means to address expected licensing issues related to Yucca Mountain. Risk assessment will also maintain flexibility to permit the introduction of new technologies that would enhance repository performance and provide further assurance of adequate protection of public health and safety and of the environment.

In consideration of the above, I approve alternative 1, which contains risk-informed and performance-based criteria for both pre-closure operations and post-closure performance of the Yucca Mountain repository. This decision is made in full recognition of the complexity of the issues associated with this matter, and is consistent with other decisions made during my tenure on the Commission.

Concerning the change process included in the proposed Part 63, I approve this section for publication as a draft, provided that it is made clear in the Federal Register notice that section 63.44 will be modified to be consistent with the final revisions to 10 CFR Part 50.59 that are being developed in response to the [staff requirements memorandum for SECY-98-171](#).

Finally, I support the statement in the Federal Register notice that the Commission is considering changes to the hearing process, e.g., legislative-style hearings. It is my belief that the mission of the NRC can be carried out efficiently and with respect for the rights of individual Americans while concurrently ensuring adequate protection would be maintained during activities at Yucca Mountain. The Office of General Counsel should develop, for Commission consideration, an informal hearing process for repository licensing, including drafting necessary changes to [10 CFR Part 2](#).

Commissioner McGaffigan's Comments on SECY-98-225:

I approve publication of the notice of proposed rulemaking for 10 CFR Part 63 specific to the proposed geologic repository for high-level waste at Yucca Mountain (YM), Nevada. I also commend the staff for meeting an extremely tight schedule for submitting the proposed rule for Commission approval and, in response to recent Commission direction, making the staff paper available on NRC's website. I offer the following comments for the staff's consideration.

General Comments:

I am convinced that now is the most appropriate time for NRC to publish its proposed rule for public comment. NRC clearly has an important statutory role in the development of technical criteria and requirements for the geologic disposal of high-level waste. NRC's role was first defined in the 1982 Nuclear Waste Policy Act and again in the 1992 Energy Policy Act (EnPA). In 1995, the National Academy of Sciences' (NAS) issued its recommendations on the appropriate technical basis for health and safety standards for the YM site, as mandated by the EnPA. The EnPA charged the Environmental Protection Agency (EPA) with promulgating generally applicable standards consistent with the NAS findings and recommendations not later than one year after the NAS report was made available to EPA. EPA is now more than two years overdue in meeting this deadline. The EnPA also charged NRC with promulgating conforming standards consistent with EPA's to be issued one year after EPA's final standards are promulgated. The EnPA in no way prohibits NRC from starting its rulemaking in the absence of EPA standards. Indeed, the time for getting started is now. The Department of Energy (DOE) is facing major milestones and decision turning points in the YM project and DOE has made clear its need for the availability of NRC standards by 2000. In order to meet this schedule and not negatively impact the national waste program, and allow ample opportunity for participation and comment by all stakeholders and other interested parties, NRC must proceed expeditiously with issuance of this rule for public comment. It is through a public process that NRC can ensure the establishment of sound and scientifically defensible standards for YM. Eventually, NRC must make sure that its standards are consistent with whatever standards EPA ultimately issues or Congress ultimately mandates, but that eventual conforming, if needed at all, will go more quickly and easily, if NRC begins its work now.

Specific Comments:

Use of an all-pathways standard: I firmly believe that adequate protection of the public is fully afforded by use of an all-pathways expected dose limit of 25 millirem per year to an average member of the critical group. The all-pathways approach is consistent with recommendations of the Congressionally-chartered National Council on Radiation Protection (NCRP), the International Commission on Radiation Protection (ICRP), the NAS study on YM, and the most recent House and Senate versions of high-level waste legislation. The all-pathways approach was also supported by the Health Physics Society, the NRC's Advisory Committee on Nuclear Waste, and many commenters during promulgation of NRC's license termination rule (LTR) in 1997. As the staff points out, the 25 millirem per year standard is also consistent with existing requirements for management and disposal of other waste facilities including 10 CFR Parts 61 (low-level waste) and 72 (spent fuel) and EPA's 40 CFR 191 (spent fuel, high-level and transuranic wastes).

The ground water pathway: The all-pathways approach fully considers the dose contribution from the groundwater pathway and therefore the need for a single, separate standard for ground water is obviated and cannot be justified on a health and safety or cost-benefit basis. Unlike the Waste Isolation Pilot Plant (WIPP) in New Mexico where the ground water pathway is not an issue, there is potable water at the YM site and therefore, the ground water pathway must be adequately protected. Implementation of an all-pathways approach effects this. Singling out the ground water pathway and applying a more restrictive standard as recommended by EPA has the effect of converting an overall system performance standard in the millirem range to a sub-millirem standard that may not be implementable at a site with potable water and far exceeds any requirement for public health and safety. Specifically, applying EPA's Maximum Contaminant Level for iodine-129 in ground water, results in an individual dose of approximately 0.2 millirem per year. This dose is extremely small when compared to typical exposures to an individual from various sources of natural background radiation. For example, 0.2 millirem per year is approximately two orders of magnitude smaller than the difference between the individual dose received from natural background when living at sea level versus living at the altitude in the vicinity of YM, and is approximately one twenty-fifth of the average dose from a transcontinental flight. In my opinion, applying a separate ground water standard unnecessarily adds complexity and costs and results in duplication of the all-pathways analysis for no value or health and safety benefit. I do not believe that it is good public policy to expend significant resources to regulate at a level that represents such an extremely low risk to the public.

"Average member of the critical group" approach: I fully support the use of the "average member of the critical group" approach. This approach is consistent with the ICRP practice of defining and using a critical group approach based on cautious but reasonable assumptions when assessing individual public exposure from low levels of radiation. It is also consistent with NCRP recommendations, the NAS findings, and it has been adopted by both NRC in its cleanup rule and EPA in its 1994 draft Federal Radiation Protection Guidance for Exposure of the General Public.

Time of compliance: I also fully support the proposed time of compliance of 10,000 years since the inherent radiological hazard of spent fuel decreases rapidly and significantly during the initial 10,000 year period (99.9 % of the hazard has diminished at 10,000 years). It is also sufficiently long such that a range of geologic conditions can be assessed during this time period, and EPA has already codified a 10,000-year compliance period in 40 CFR 191 applicable to WIPP.

Human intrusion: I look forward to public comments on the proposed stylized human intrusion scenario since certain assumptions could be considered by some to be overly conservative, e.g., borehole drilled through a waste package all the way to the saturated zone. Also, the statements of consideration indicate that DOE is to assume that the borehole is not adequately sealed however, section 63.113 is silent on this issue. These sections need to be made consistent for clarity.

Changes to the safety program: It appears that proposed section 63.44 applies a 10 CFR 50.59-like change process to the entire contents of the license application rather than only the Safety Analysis Report (SAR). As a result, implementation of the proposed requirements for Commission approval, reporting and recordkeeping of certain program changes has the potential to be quite burdensome for both the applicant and regulator. Proposed language for Parts 50, 52, and 72 would all suggest that the 50.59-like change process be applied only to the SAR. Also, the staff should consider Commission direction in a staff requirements memorandum dated September 25, 1998 (SECY-98-171) to modify 10 CFR Parts 50, 52 and 72 to allow minimal increases in the probability of occurrence or consequences of an accident or malfunction of equipment and minimal reduction in the margin of safety without the necessity of submitting a license amendment. The staff should modify section 63.44 to incorporate language equivalent to that proposed for 10 CFR 72.48, including making conforming changes to sections 63.44 and 63.46 to eliminate the concept of an "unreviewed safety question."

The Federal Register notice: Like the recent proposed rulemaking package on Part 35, the staff should consider consolidating all the questions soliciting public comment located throughout the FRN into one section for ease of the reader. The questions should not necessarily be removed from their respective subject areas so as to keep them in context.

Specific edits on the Federal Register notice, press release and letters to Congress are indicated on the attached pages.

The Hearing Process:

In the HLW context we have an opportunity to take decisive steps toward more open, less formal, hearings, for both construction authorization and licensing to receive and possess waste. No statute dictates what sorts of hearings we have in these two contexts, and no tradition of formal hearings carries an inertial force against needed change. To the contrary, EPA's non-adjudicatory handling of the Waste Isolation Pilot Project is a precedent for change.

Although Part 2 Subpart J, which covers hearings on an application for a license to receive and possess waste, is a well-considered set of regulations, with many of the virtues praised in our recent Policy Statement on Adjudications, proceedings under Subpart J are still formal. As the SECY paper notes, cross-examination is said to be a virtue of formal hearings. While it may have its uses, it is strikingly enough not a widely valued tool in technical and scientific professions, where inquiry and sustained questioning are nonetheless crucial. Our procedures, whether in hearings or in the staff's reviews of the application, should leave plenty of room for inquiry and questioning; but it is not clear that those procedures must leave room for cross-examination, which is a specialized form of questioning that has evolved within the contentious, but not always inquiring, atmosphere of the courts.

Doing away with the unnecessary trappings of trial is not enough, however. I have argued before that formal processes are too restrictive as to who may speak, where they may speak, what they may say, and how they may say it. It will not be enough to make hearings less formal. We must also make them more open. I focus here on one aspect of openness, namely, standing. If we make the two repository hearings less formal but retain current formal standing requirements, which are essentially those of Part 2 Subpart G for formal hearings, we will have succeeded in ruling out as interveners organizations that do not have a base near the repository or do not have the time for a trial (UCS, NRDC, and Public Citizen among them), but who nonetheless might make a contribution to the technical and policy discussions involved in the licensing of the repository. I have said before that we should look to legislative hearings as one model for informal hearings. It is common in legislative hearings for relatively disinterested but nonetheless expert persons to participate. Contrast that with the approach that is too often taken in formal hearings, where the party must always be interested and is sometimes very inexperienced. The advantages of formality are not obvious in such cases.

I believe that the Federal Register notice in which the proposed Part 63 is published should say that the Commission's present inclination is to conduct rulemaking that would provide for informal hearings for both authorization of construction and licensing of receipt and possession of waste. Attached is one way of saying that.

I would also direct OGC to develop a proposed rule for informal hearings for both of these stages. Because the licensing process for the HLW repository is broken into stages and opportunity for hearings attach to more than one of the stages, the proposed rule should include, among other things, some provision that gives the appropriate degree of finality to decisions made in earlier hearings. For example, such a provision might say that issues that were, or could have been, litigated and resolved in a hearing on construction authorization would be revisited only if significant new information that could alter the original findings was brought forward. The same provision could also say, drawing on 10 CFR 52.103(c), that only the Commission had the authority to reopen an issue. The provision might also say under what circumstances, if any, operation could go forward while the original finding was being revisited.

[Revision of paragraph over the break between page 7 and page 8 in the FRN]

As part of its broader efforts to improve the effectiveness of its programs and processes, the Commission has a study of the NRC hearing process underway which includes the process that would be used for repository licensing. If, on the basis of this study, the Commission ~~believes~~ concludes that changes to the hearing process are warranted, it will propose them for adoption in a separate notice and comment rulemaking. ~~However, in this rulemaking, the Commission is not seeking comment on potential changes to the hearing process. However, in the interests of openness, the Commission wishes to say that, at present, the Commission is inclined to provide for informal hearings for both construction authorization and licensing to receive and possess waste. No statute requires formal hearings in either case; EPA conducted none in certifying the Waste Isolation Pilot Project; and informal hearings allow for both greater efficiency and greater openness. The Commission has directed the staff to prepare a draft rule that could be issued for public comment should the Commission conclude that changes to the hearing procedures for construction authorization and licensing to receive and possess waste are warranted.~~

Commissioner Merrifield's Comments on SECY-98-225

I approve publication of the notice of proposed rulemaking for 10 CFR Part 63 specific to the proposed geologic repository for high-level waste at Yucca Mountain, Nevada. I concur with Commissioner McGaffigan's "general comments" of March 13, 1998, as I believe that now is the appropriate time for NRC to publish its proposed rule for public comment.

Although I found Commissioner McGaffigan's "specific comments" regarding the use of an all-pathways standard compelling, I need to conduct some additional analysis before I am willing to fully endorse the approach he suggests. Nevertheless, I believe that the 25 millirem approach that is included in the proposed rulemaking is the appropriate placeholder to be utilized until the Environmental Protection Agency promulgates generally applicable standards.

Finally, I fully concur with Commissioner McGaffigan's comment regarding the "hearing process." I believe that an informal rulemaking process will provide the NRC with a tool for more informed decision making and will ultimately result in the adoption of more well-reasoned decisions.