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USNRC

DEPARTMENT OF ENERGY & TRANSPORTATION

Watkins Building, 510 George Street
Jackson, Mississippi 39202-3096
601/961-4733

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OFFICE OF SECRETARY
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August 15, 1986

Samuel J. Chilk, Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555
Attention: Docketing and Services Branch

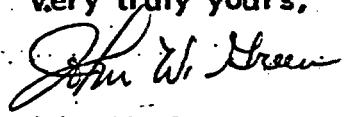
Dear Mr. Secretary:

Re: Comments on the proposed rule,
10 CFR 60 "Disposal of
High-Level Radioactive Wastes in
Geologic Repositories;
Conforming Amendments" (51
FR22288)

The State of Mississippi has asked the members of the technical community to review the proposed rule which conforms 10 CFR 60 to the EPA's "Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Wastes" (40 CFR 191) published September 19, 1985. Attached you will find the comments compiled by the Nuclear Waste Program staff and the Mississippi Mineral Resources Institute.

Thank you for the opportunity to comment on this proposed rule and your consideration of these comments.

Very truly yours,



John W. Green
Executive Director

8609030293 860815
PDR PR
60 51FR22288 PDR

JWG:cpf
Attachments

cy: Lisa Spruill, Mississippi Special Assistant Attorney General
Allen Benson, DOE-HQ
Nuclear Waste Technical Review Committee
Nuclear Waste Policy Advisory Council

DS10
add: Daniel J. Lehninger, 62355
Clark Prichard, 113055

AUG 21 1986
Acknowledged by card

DEPARTMENT OF ENERGY & TRANSPORTATION

MEMORANDUM

TO: Mr. Ron Forsythe, Manager
Nuclear Waste Program

FROM: Don Christy
Senior Nuclear Waste Specialist

SUBJECT: Review of Proposed Changes to 10 CFR 60

DATE: August 15, 1986

I have reviewed the proposed changes to 10 CFR 60, "Disposal of High-Level Radioactive Wastes in Geologic Repositories" (51 FR 22288). The purpose of this rulemaking action is to incorporate the EPA "Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes" (40 CFR 191). Included in this review is PRM-60-2 as amended on September 30, 1985.

The majority of changes in the rule deal with the addition of release limits and language dealing with post closure monitoring. The EPA assurance requirements (40 CFR 191.14) have been incorporated by intent due to the fact that NRC does not believe that the EPA has the authority under the Reorganization Plan No. 3 of 1970 to promulgate such requirements. I have the following comments on the proposed additions:

In section 60.2 there is a problem with the definition of "significant source of groundwater". The expression, "is within 2500 feet of the land surface" should be reconsidered. There are places at which water of drinking quality (less than 1000 ppm TDS) exist at 3000 feet below land surface. There is nothing magical about the 2500 foot requirement. Consideration to dropping the yield requirement should also be given. Wells with yields for less than 10,000 gpd are sources of drinking water. The yield also depends on many things such as well completion techniques. Well construction by design may be the limiting factor in productivity. Many water systems also use spaced cluster wells for production.

There is also a lack of consideration of the fact that many rural water supplies are not on "community water systems". Many of these families have home wells which serve as the source of drinking water.

The definition of "special source of groundwater" is very subjective. The terms "thousands of persons" and "reasonable alternative" should be further clarified. The issue of "irreplaceability" should be considered. It may be very difficult to determine if one source is more irreplaceable than

another. For example the Miocene aquifer system is to southern Mississippi as irreplaceable as the Ogallala Aquifer is to Texas.

In section 60.21(c)(1)(ii)(C) thought should be given as to whether an "overall probability distribution" will adequately reflect the uncertainties reflected by each component function. Uncertainties may not be linearly additive so consideration to nonlinear addition should be given.

In section 60.112(b) there is no reason to deviate from the requirements spelled out in 60.111(a)(1). Although the dose calculation at 1000 years will be based on performance assessments, the standard of 25 millirems to the whole body, 75 millirems to the thyroid and 25 millirems to any other critical organ should be applied uniformly. In this section as well as in section 60.111(a)(1) we agree with NRC's footnoted statement on page 22289 that the "and" should be replaced by "or". Likewise in section 60.112(b) the dose equivalents should be 25 millirems whole body, 75 millirems thyroid or 25 millirems to other critical organs. It is not always wise to rely on the present day interpretation being carried into the future.

In section 60.112(c)(2), the standard should not allow the further contamination of water already containing substantially high levels of radionuclides. The spirit of the State Drinking Water Act is to prescribe specific maximum contaminant levels for finished water. The State Drinking Water Act applicability is to community water systems, but would not protect an individual whose source of drinking water was not from a community water supply. Such an individual could conceivably be a maximally exposed individual using the philosophy as proposed in 60.112.

In section 60.144 we recognize that the NRC has the regulatory authority and may not impose requirements past its licensing period. The Department of Energy should continue the monitoring effort indefinitely. The last sentence in this section should be removed.

In the background section on page 22290 the practicality of monitoring is questioned. Although monitoring will not demonstrate compliance, it will provide a great deal of useful information. The first method outlined for demonstrating compliance may not reflect uncertainties in data and projections. The second method places a great deal of reliance on engineered barriers which may not be conservative. The Commission should not assume that current patterns will remain

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unchanged. Patterns have changed in the last 100 years and will probably change in the next 100 years. It should be left to the license applicant to demonstrate whether or not patterns will change.

Most of the changes made in the proposed rule as a result of this rulemaking effort were outlined in the Nevada and Minnesota Petition for Rulemaking 60-2 as amended.

If there are any questions, please contact me.

/pf



The Mississippi Mineral
Resources Institute

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August 6, 1986

Old Chemistry Building
University of Mississippi
University, Mississippi
38677

(601) 232-7320

Mr. Don Christy
Mississippi Department
of Energy and Transportation
Watkins Building
510 George Street
Jackson, MS 39202

Dear Mr. Christy:

As per your request, the Nuclear Waste Isolation Team has reviewed the proposed Nuclear Regulatory Commission rulemaking. We feel that there is but one major point of concern. This concern relates to the absence of hydrologic monitoring after site closure. The attached comment reflects our thoughts on the issue.

Sincerely,

Charles Swann
Nuclear Waste Isolation Team

rw

Enclosure

Groundwater Monitoring

"Individual and groundwater protection requirements - The individual and groundwater protection requirements are applicable for the first 1,000 years after permanent closure of a repository. Monitoring is not practical for this period of time and the applicant will therefore be required to demonstrate compliance with these requirements through analyses of projected repository performance."

The proposed N.R.C. addition to Part 60 requiring post-closure groundwater monitoring is necessary not only to bring NRC and EPA regulations into agreement, but to provide a measure of protection to the citizenry living adjacent to the site. The discussion cited above indicated that long term (1,000 years) monitoring is not practical. It appears to us that long term monitoring is not only practical but necessary to ensure that model generated projections are valid. After repository closure there is no means of evaluating or perhaps even identifying an unanticipated event which might compromise waste isolation. A series of maintained monitor wells could prove useful to alert the D.O.E. that an "unanticipated event" has become reality as well as to provide an "early warning system" that could alert the D.O.E. that radionuclides have entered the groundwater prior to them reaching public water supplies. If it is practical to conduct research to design the repository itself, it should equally be practical to design and maintain a system of monitor wells. Therefore, the N.R.C. should require long term hydrologic monitoring.