

December 3, 1997

FOR: The Commissioners

FROM: L. Joseph Callan /s/ Executive Director for Operations

SUBJECT: GENERIC AND CUMULATIVE ENVIRONMENTAL IMPACTS OF TRANSPORTATION OF HIGH-LEVEL WASTE (HLW) IN THE VICINITY OF AN HLW REPOSITORY (SRM M970612)

PURPOSE:

To provide the Commission regulatory options for license renewal applicants to address the cumulative and generic environmental impacts of transportation of HLW activities in the vicinity of an HLW repository. This paper is provided in response to a staff requirements memorandum (SRM) dated June 26, 1997, and WITS item 9700218.

BACKGROUND:

The Commission revised its environmental protection regulations (10 CFR Part 51) for license renewal on December 18, 1996 (61 FR 66537). Since the final rule was published, the staff met with two potential license renewal applicants and the Nuclear Energy Institute (NEI) to discuss the format and content of the environmental report (ER) to be included in a license renewal application. The staff discussed a number of issues during these meetings and provided guidance in all but one area, the generic and cumulative impacts of transportation of HLW. Section 51.53 (c)(3)(ii)(M) states, in part,

The review of impacts shall also discuss the generic and cumulative impacts associated with transportation operation in the vicinity of a high-level waste repository site. The candidate site at Yucca Mountain should be used for the purpose of impact analysis as long as that site is under consideration for licensing.

During the meetings, industry representatives stated that individual license renewal applicants should not be responsible for the analysis of generic and cumulative environmental effects resulting from transportation of HLW in the vicinity of an HLW repository. The industry

representatives stated that the Department of Energy (DOE) has the responsibility for considering the cumulative environmental impacts of transportation of HLW. The industry representatives believe that the issue should be reexamined and categorized as a Category 1 issue, which will not require a plant-specific evaluation in a license renewal applicant's ER. The two licensees requested guidance from the staff to determine the level of effort needed to address this issue in the ER. As a result, the staff began a review of available information to determine whether the impacts of transportation of HLW could be recategorized as a generic Category 1 issue for 10 CFR Part 51.

In the Statements of Consideration for the final 10 CFR Part 51 rulemaking in 1996, the Commission stated that it believed there was insufficient information and that unresolved issues could exist regarding the magnitude of cumulative impacts from the transportation of HLW in the vicinity of an HLW repository; it therefore declined to reach a Category 1 conclusion at that time (61 FR 28480). However, the Commission recognized the generic nature of the issue and stated that as part of its efforts to develop regulatory guidance for the rule, it would consider whether further changes to the rule were desirable to generically address the issue of cumulative impacts of transportation of HLW and the impacts that the use of higher burn-up fuel would have on the conditions listed in Table S-4 of 10 CFR Part 51. The Commission stated that although DOE will have title to the spent fuel and HLW and must consider the environmental impacts of transportation of HLW in the National Environmental Policy Act (NEPA) review for an HLW repository, the Commission still has an obligation under NEPA to consider the impacts of transportation of HLW in its environmental review for renewal of an operating license (61 FR 66538).

At the Commission briefing of June 12, 1997, the staff provided a status of license renewal activities. In the SRM dated June 26, 1997, from that meeting, the staff was directed to provide a schedule for completing the analysis of DOE information on HLW transportation impacts and to provide the Commission options for addressing the generic and cumulative HLW environmental impacts within the framework of a license renewal application. In a memorandum dated July 17, 1997, the staff replied to the Commission that completion of the analysis was scheduled for October 1997, while the Commission paper outlining the regulatory options was scheduled for completion in November 1997, barring complications in obtaining further data from DOE. By memorandum dated November 21, 1997, the staff informed the Commission of the results of the supplemental analysis. The analysis provided additional information regarding the generic and cumulative impacts of the transportation of HLW and addressed the implications of higher fuel enrichment and burn-up for the environmental effects resulting from transportation of fuel and waste, Table S-4. While the evaluation of the supplemental analysis is ongoing, the staff's preliminary view is that the supplemental analysis and the analysis provided in NUREG-1437, "Generic Environmental Impact Statement [GEIS] for License Renewal of Nuclear Plants," May 1996, support a reasonable technical and legal determination that transportation of HLW is a Category 1 issue and may be generically adopted in a license renewal application.

DISCUSSION:

The following options are available to address the generic and cumulative impacts of transportation of HLW in the vicinity of an HLW repository for license renewal applicants. One or more options may be implemented, depending on when a license renewal application is submitted.

Option 1 - Grant an Exemption (near-term applicants)

The Commission may exempt a license renewal applicant from addressing the HLW transportation requirements of 10 CFR 51.53(c)(3)(ii)(M) in the ER. Exemptions are allowed under 10 CFR 51.6 if the Commission determines it is authorized by law and is otherwise in the public interest. As discussed at

the Commission meeting of June 12, 1997, the obligation to examine environmental issues under NEPA fundamentally belongs to the NRC. NRC's regulations in 10 CFR Part 51 require that licensees submit information to the NRC that supports and shortens the NRC's NEPA review process. An exemption from this requirement is slightly different than the traditional exemption from other requirements in NRC's regulations. The Commission's basis for granting an exemption in this case would be that the issue is clearly generic and will be addressed as such by the NRC. Therefore, granting an exemption will not alleviate the obligations of the NRC to address the impacts of transportation of HLW in the vicinity of Yucca Mountain as part of its NEPA review; however, it will exempt a license renewal applicant from providing information in a plant-specific application. An exemption would be an additional action with regard to the review of the ER and the license renewal application. An evaluation and an environmental assessment would be developed to support the exemption.

This option was initially raised by the industry and discussed because at the time there was no analysis of the generic and cumulative impacts of transportation of HLW and it was unclear what information to support such an analysis was available from DOE. With the completion of the staff's supplemental analysis, which will be placed in the Public Document Room, and the information contained in NUREG-1437, information is available upon which a more complete analysis may be based. Licensees may reference and adopt the staff's analyses if the assumptions and analyses are applicable to the particular plant. Therefore, the staff does not believe that an exemption will be needed.

Option 2 - Provide a Discussion in the Plant-Specific ER (near-term applicants)

The Commission would require applicants to address the issue of generic and cumulative impacts associated with transportation of HLW in the vicinity of an HLW repository site as required by the rule. The applicant would provide the best available information on the basis of its evaluation of the applicability of the supplemental analysis, NUREG-1437, and DOE documentation to its site and would address any changes or site-specific information the staff may need in support of its evaluation. The impacts of the transportation of HLW would be discussed in a broad sense by the licensee, recognizing the generic nature of the issue and the role of DOE in the HLW transportation process. The NRC staff, in its evaluation, would supplement the applicant's analysis with additional information and include information as it becomes available from DOE.

Referencing and adopting the staff's analyses would be one acceptable way that an applicant

could meet the requirements of the rule. The applicant would also be free to develop its own analysis on the basis of available DOE information. This option would allow licensees to meet the requirements of the rule in the near term by providing the Commission with information to support its evaluation. The staff is in favor of this option for license renewal applications that are submitted before final resolution through rulemaking is completed.

Option 3 - Rulemaking (long-term solution)

The Commission may amend 10 CFR 51.53(c)(3)(ii)(M) to categorize the impacts of transportation of HLW as a Category 1 issue. Category 1 issues allow an applicant to adopt the staff's generic analysis and do not require a plant-specific review in the ER. The basis for the rulemaking would be the staff's supplemental analysis and NUREG-1437 and would address both the generic and cumulative impacts of the transportation of HLW and the Table S-4 issues. Because this rulemaking would not be considered a candidate for a direct final rule, rulemaking would take approximately 1 year. The schedule is highly dependent on the extent of the public comments and any technical or legal challenges that may arise. The rulemaking could be initiated immediately, or could be initiated at the prescribed 10-year GEIS update interval (next update due in 2006) and could be concurrent with other options if a license renewal application is submitted before the rulemaking is completed. The staff is in favor of initiating rulemaking immediately to resolve the issue. This step would conserve both licensee and NRC resources in developing and reviewing the issue in plant-specific ERs.

RESOURCES:

The resources associated with Option 1 would be consistent with the resources needed to process other exemption requests, approximately .5 staff months. The resources associated with Option 2 would be included in the overall review of the license renewal application. The resources associated with rulemaking in Option 3, recognizing the uncertainties associated with the extent of the public comments and any legal or technical challenges, are estimated at 3 staff months.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection to its contents.

The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections to its contents.

RECOMMENDATION:

The staff recommends implementing Option 3 immediately as a long-term solution and implementing Option 2 if a license renewal application is received before the rulemaking activity is completed.

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