

Environmental Policy Institute

317 Pennsylvania Ave. S.E. Washington, D.C. 20003

202/544-8200

DOCKET NUMBER

PROPOSED RULE

14

PR-73(44FR 34466)

August 10, 1979

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Docketing and Service Branch



Dear Sir;

The Environmental Policy Institute makes the following comments concerning the Interim Final Rule for 10 CFR Part 73--Physical Protection of Irradiated Reactor Fuel in Transit(44 F.R. 34466, June 15, 1979):

The Environmental Policy Institute has reviewed the Interim Final Rule as published in the Federal Register and the supporting guidance document (NUREG-0561). The Institute is in general agreement with the substance and purpose of the rule and commends the Commission for taking this action.

- 1) We note that while the support document(NUREG-0561)states that operational inconvenience is not an acceptable basis for determining the practicality of routing decisions, this requirement is not expressly stated in the rule. We recommend that this requirement be incorporated in the rule under Section 73.37(a)(3). This issue has arisen before in the Department of Transportation rulemaking on highway routing of radioactive materials and should be explicitly stated in the rule for consistency, clarity, and protection of the public. This rule should not be inconsistent with the intent of 49 CFR 397.9 to provide for Federal regulation of routing regardless of economic convenience.
- 2) We also note that while the rule provides for routing restrictions, it does not provide for a restriction on the mode of transport or a requirement that alternative modes be considered when making a determination of the practicality of a route. The Commission should establish its authority to restrict or authorize specific transportation modes and to require a test of alternative modes. We recommend that this requirement be incorporated in the rule under Section 73.37(a).
- 3) The rule, and the guidance, do not address the issue of vehicle qualification with the exception of immobilization capability. The Commission should adopt a regulatory position on the certification of vehicle operability and immobilization in support of Section 73.37(b)(3).
- 4) Finally, the rule provides for armed guards and escorts for both rail and highway shipments. Neither the rule nor the guidance document provide any guidance on radiological exposure of these personnel or an estimate of such exposures. The Environmental Policy Institute has commented on this matter in the Department of Transportation highway routing rulemaking(copy attached) and supports specific guidance on the radiological exposures resulting from this rule. This is an especially important matter since DOT rules provide for two millirem per hour exposure rates in the cab of exclu-

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sive use vehicles. This translates to estimated doses of over two rem per man per year. At the same time, transportation companies are not licensed or otherwise required to have health physics programs. This situation is significant in and of itself and will be compounded by this new Commission rule. The Commission must address the health physics and ALARA implications of this rule.

Respectfully,



David Berick

Enclosure

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Environmental Policy Institute

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November 29, 1978

Statement for Public Hearing on the Highway Routing of
Radioactive Materials
by
David Berick

The Environmental Policy Institute intends to respond in detail to the Materials Transportation Bureau's August 17th Advance Notice of Proposed Rulemaking which is the basis for the hearing today. We would like to take this brief opportunity however, to focus attention on the issue of radiation protection and highway routing of radioactive materials.

Highway routing regulations, which the Institute supports, are but one aspect of a larger problem of radiation protection, which the Materials Transportation Bureau is avoiding. Routing responds to a particular need to reduce risks to populations adjacent to transportation routes. A commendable objective. The unasked question, however, is whether radiation exposures and radiation exposure risks would be sufficiently reduced and whether they could be further reduced.

In all other aspects of radioactive materials production, utilization, and storage, population and occupational exposures are required to be kept as low as reasonably achievable--or ALARA. All Federal agencies are subject to Federal Radiation Guidance promulgated in 1960 by the Federal Radiation Council (25 FR 4402, May 13, 1960, "Radiation Protection Guidance for Federal Agencies"). The guidance is presently in force under the authority of the Environmental Protection Agency to which the Federal Radiation Council authority was transferred.

The guidance specifically calls for exposure to radiation to be reduced to levels where "The reasons for accepting or permitting a particular level of exposure rather than reducing the exposure to a lower level must outweigh the decrease in risk to be expected from reducing the exposure." The Guidance has been interpreted to mean that exposures are to be reduced to levels as low as reasonably achievable taking into account economic costs and benefits and tradeoffs between exposure to occupational workers and the general public.

We believe that the Materials Transportation Bureau is already subject to this guidance and is under obligation to reduce radiation exposures through its regulatory framework, including routing regulations. The Bureau has not seen fit to adhere to this guidance, and with the exception of regulations concerning radiation exposure to airline passengers proposed by the FAA in 1975, the EPA has not seen fit to pursue the matter in transportation. EPA guidance is now based upon a linear dose-effect analysis as outlined in the National Academy of Sciences Biological Effects of Ionizing Radiation Committee findings. This analysis indicates that no exposure limit is a riskless limit. Consequently, radiation exposure levels must be reduced to levels as low as reasonably achievable.

The regulatory approach taken in the hazardous materials regulations does not provide for ALARA radiation exposures. Instead, it allows specific limits of exposure. The result is that both occupational and general populations are "overexposed".

Transport regulations, for example, for exclusive use vehicles permit exposures of up to 2 millirem per hour in any normally occupied position in the vehicle§173.393. An analysis by Allied-General Nuclear Services at Barnwell, South Carolina compared the dose to truck drivers transporting spent fuel shipments with the dose to workers at the plant handling the shipments upon arrival. Allied-General calculated that the driver would receive over 2 rems per year at the standard. The Nuclear Regulatory Commission performed a similar analysis for its Final Environmental Statement on Transportation and estimated a 2.2 rem per year dose at the standard. By contrast, the Barnwell employees were calculated to receive only 1.5 rem per year. The Barnwell employees would also be subject to monitoring and health physics programs as well as ALARA radiological survey programs to establish equipment and procedures to limit their exposure. While it could be argued that doses to drivers are generally below the 2 millirem per hour limit there is no program to assure that this occurs or to measure and limit actual doses. Routing over longer distances will increase driver doses.

My point here is simple. Routing is but one aspect of what should be an overall ALARA radiation regulatory program including emergency response, driver training, monitoring, and vehicle inspection. As part of its routing inquiry, the Bureau must begin looking carefully at its obligation to limit radiation exposure. Routing may be the major component of such a program, but in any case the routing should be based upon extensive radiation exposure and risk analysis.

Because we believe that the Department of Transportation regulations for the transport of radioactive materials should be in keeping with the ALARA radiation protection guidance, we are in the process of preparing a petition for rulemaking under § 102.31 which will specifically request the Materials Transportation Bureau to develop ALARA radiation protection programs and standards. The petition will extend such consideration to other modes beside highway carriage. Such a program, we believe is the only way in which the Bureau can address the issue raised under 49CFR397.9 of the practicable alternatives for highway routing in highdensity or congested areas. The Bureau should recognize routing for what it is--deciding who gets exposed and who is at risk--and then get down to the business of limiting that exposure and that risk.

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