AUG 2 8 1973

Chairman Ray Commissioner Larson Commissioner Doub Commissioner Kriegsman Commissioner Anders

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EPA PROPOSED RADIATION STANDARDS FOR NORMAL OPERATION OF URANIUM FUEL CYCLE

On August 16, 1973, the Commission received for review, by transmittal to Chairman Dixy Lee Ray from Mr. John Quarles, Acting Administrator, EPA, a draft copy of proposed EPA Environmental Radiation Standards for Normal Operation of the Uranium Fuel Cycle. Mr. Quarles' letter requested review comments by September 5, 1973.

Our staff is in the process of reviewing the proposed EPA environmental radiation standards. To date this review has identified a major policy issue problem relative to EPA's plans to impose radionuclide release limits and dose limits applicable to individual nuclear power and fuel cycle facilities. It is our view that the EPA should limit its proposed standards to radiation exposure, or levels or to quantities of radioactive material, in the general environment. Such standards would fulfill EPA's responsibilities and at the same time provide the AEC appropriate flexibility to determine siting conditions, design of facilities and equipment, and operating procedures that would assure best operations in the public interest. This issue is addressed in greater detail in the enclosed draft response to Mr. Quarles' letter to Chairman Dixy Lee Ray.

Our staff has also identified several additional items which have policy implications. These are addressed in enclosure no. 2, "Other Policy and Technical Considerations in EPA Proposed Radiation Standards for Fuel Cycle."

Since we are still in the process of reviewing technical details of the proposed standards for the uranium fuel cycle which are involving technical discussions with EPA staff to define the basis for the proposed standards, it is possible that other technical questions or problems may be identified.

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At this time we believe that major policy issues are identified in enclosures 1 and 2.

In view of the potential importance of this issue and the KPA response request date of September 5, I propose that this subject be included in the agenda for discussion during the Policy Session meeting of September 4, 1973.

(signed) L. Manning Muntzing

L. Manning Muntsing Director of Regulation

Enclosures:

- 1. Draft Response to Mr. J. Quarlas' Ltr
- 2. Other Policy and Technical Considerations in EFA Proposed Radiation Standards for Fuel Cycle

cc: Secretary General Counsel

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ATOMIC ENERGY COMMISSION

Mr. John Quarles Acting Administrator U. S. Environmental Protection Agency 401 M Street, S.W. Washington, D. C. 20460

Dear Mr. Quarles:

We appreciate the opportunity to review the proposed EPA environmental radiation standards for normal operation of the uranium fuel cycle and your staff analysis report on the same subject, "Proposed Radiation Standards for the Fuel Cycle", which were transmitted with your letter to Chairman Dixy Lee Ray on August 16, 1973. We also appreciate the briefing on this material that Dr. William D. Rowe, Deputy Assistant Administrator for the Radiation Program, and his staff have provided to our staff.

Our review of the draft of the proposed rule has identified a concern which we consider a major policy issue. The proposed rule would impose radionuclide release limits and dose limits applicable to individual nuclear power reactor and fuel cycle facilities. We believe that, consistent with Reorganization Plan No. 3 of 1970, EPA standards should not impose release limits on individual sites. Reorganization Plan No. 3, which serves as the stated basis for EPA authority in this area, transferred certain functions from the Atomic Energy Commission to the Environmental Protection Agency,

"... to the extent that such functions of the Commission consist of establishing generally applicable environmental standards for the protection of the general environment from radioactive material. As used herein, standards mean limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material."

The Congress, under the Atomic Energy Act of 1954, has given responsibility to the AEC to license and regulate individual fuel cycle facilities. In this context, it is the responsibility of the AEC to determine siting conditions, design of facilities and equipment, and operating procedures. The language of the Reorganization Plan, and the "legislative history" associated with Congressional consideration of the Plan, make it clear the probability was not to intrude into these areas of licened and regulation. Rather, the standards with respect to the general environment would be set by EPA, and AEC would implement the estandards through its licensing process. EPA's proposed rules would intrude upon this area of AEC licensing and regulation and, in effect, purport to vest EPA with the implementation and enforcement function reserved to AEC under Reorganization Plan No. 3.

EPA should limit its proposed standards to radiation exposure, or levels or quantities of radioactive material, in the general environment. Such standards would fulfill EPA responsibilities while at the same time leave AEC with its implementation and enforcement functions. It i essential that the AEC maintain the authority t achieve the lowest practicable releases of radioactive materials through a combination of appropriate siting factors and the selection of facilities, equipment and procedures to assure operation in the public interest.

In addition, the staff has noted several technical problems and a paper setting forth these problems is enclosed.

I suggest that we meet promptly to discuss these matters further.

Sincerely,

William O. Doub Commissioner

Enclosure: List of Technical Problems OTHER POLICY AND FICAL CONSIDERATIONS IN EPA

1. Oues ionable Basis for Derivation of Dose Limits

Dose standards proposed by EPA are claimed by its staff to be based on the status of current technology. Although we will have some questions about the calculational models and the numbers that EPA uses for dose, we agree that numbers are in the ball park. However, the important consideration here is that EPA uses these numbers as upper limits with little flexibility to exceed the limits whereas AEC considers the same numbers as design objectives - something achievable by reactor and fuel cycle facilities most of the time. If we were required to implement the limits that EPA have proposed, plants would need to be designed to operate at a considerably lower value as a practical necessity. Based on present technology, we may not have a viable situation.

2. Perspective on Health Effects from Nuclear Operations EPA has established dose effect curves for selected radionuclides released from the fuel cycle. The curves are estimates projected from the present to the year 2000. Since EPA is responsible for regulations to protect the public from combined sources of environmental impacts, EPA should relate their estimates of radiation health effects from the nuclear industry to effects from other sources of radiation, such as radiation from natural sources and from medical practices. The public should know that the relative effects from the nuclear industry are small (see enclosed chart from BEIR Report. Note that this chart refers to the situation in 1970. In the year 2000 with nuclear power production up by a factor of about 100, it is still small.) Failure to do so would appear to be contrary to the public interest because it would limit the public's capability to assess the predicted effects with respect to other common sources.

The rule that EPA is planning clearly appears to us to be a major Federal action which affects both the health of the public and the ability of the nation to meet energy demands. If AEC were proposing a similar rule, we would definitely issue an environmental impact statement identifying the benefits and costs of such standards so that the public might be fully informed. It makes sense for EPA to do the same. Krypton-85 and H-3 Limits The Notice of Proposed Rulemaking states:

> "The Agency proposes that the emount of krypton-85 entering the general environment from fuel reprocessing be limited to less than one percent of the total inventory of krypton-85 in fuel received for processing. In order to allow the industry time to implement this standard, its effective date has been specified as 48 months after the effective date of this rulemaking."

We do not agree with EPA about the state of development of krypton removal technology and hence the time in which a krypton recovery system could be on line for fuel reprocessing plants. Only small amounts of Kr-85 are discharged to the environment and the resulting doses, at least through 1980, would be minuscule. Plants that are currently being dicensed are required to plan for installing Kr-85 recovery systems as soon as effective methods and equipment are developed.

Although the EPA recognizes that there is no control currently available for tritium, they state that "a future rulemaking is contemplated dealing with tritium releases from reprocessing plants built after 1978." In view of the fact that the technology for tritium removal from reprocessing plant effluents does not exist, and the low doses from tritium released, this planned action does not appear to be justified.

4. Requirement to Site in Remote Areas

Although the EPA states in the proposed rule that no attempt has been made to specify siting constraints, the statement is made that it is expected "... that planners will take advantage of the benefits of remote sites in their designs" and that "... the Atomic Energy Commission's policy of low population density siting as practiced in the past should be consistent." We agree in principal. However, the proximity of nuclear power facilities to population density levels is a siting consideration which should be the responsibility of the Commission. This is one of many factors which needs to be considered and weighed against other factors in the selection of sites and the design of nuclear facilities.

- 2 -

Source	Average Dose Kate* (mrem/yr)	Annual Person-Rems (in millions)	
Environmental Natural Global Fallout Nuclear Power	102 4 0.003	20.91 0.82 0.0007	
Subtotal	106	21.73	
Medical Diagnostic Radiopharmaceuticals	72** 1	$\begin{array}{c} 14.8 \\ 0.2 \end{array}$	
Subtotal	73	15.0	
Occupational Miscellaneous	$\frac{0.8}{2}$	0.16 0.5	
TOTAL	182	37.4	

Summary of Estimates of Annual Whole-Body De + Rates in the United States (1970)

*Note: The numbers shown are average values only. For given segments of the population, dose rates considerably greater than these may be experienced.

**Based on the abdominal dose.

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Memorandum for the Record

EPA Proposed Standards for Normal Or Jon of Uranium Fuel Cycle (SECY-R-74-31)

The Commission discussed _____aft response to the Acting Administrator, EPA, transmitting AEC views on the EPA's proposed environmental radiation standards for normal operation of the uranium fuel cycle.

- The Commission requested the letter be revised to emphasize primarily the technical rather than the jurisdictional aspects Α. of the AEC-EPA differences concerning the proposed standards and resubmitted for further Commission consdieration later in the day. (DR)
- B. The Commission noted:
 - 1. staff's view that the technical and jurisdictional issues in this matter are inextricably interwoven since the EPA proposed standards would establish and inflexible 5 millirem effluent limit for individual facilities, which (a) represents an unauthorized extension of EPA jurisdiction from the setting of general environmental standards for AEC implementation for individual facilities, and (b) fails to account for such technical considerations as the need for a flexible effluent limit for individual facilities (as provided in AEC's proposed Appendix I radiation standards) and the capability of krypton and tritium recovery systems to meet EPA effluent limits for these elements;
 - 2. possible consequences of the proposed EPA action include either preemption of AEC regulation of the fuel cycle or two separate fuel cycle licensing systems;
 - 3. Commissioner Kriegsman's view that the draft response is neither sufficiently detailed to substantiate the technical argument nor sufficiently firm to successfully oppose the EPA's jurisdictional claim (if that position is in fact in error); and
 - 4. Commissioner Doub's suggestion that it would be desirable to emphasize the technical issues in the written response to EPA and raise the jurisdictional question orally in meetings with EPA officials.

REG P.S. 74-6, 9/4/73

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Memorandum for the Record

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EPA Proposed Standards SECY-R-74-31)	
Fuel Cycle (See also	to FPA

The Commission <u>discussed</u> a revised draft response to EPA containing AEC views on the proposed EPA radiation standards.

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- A. The Commission <u>approved</u> the proposed letter, subject to an editorial revision by Commissioner Doub, and its release on September 5, 1973. (DR/Domagala)
- B. The Commission noted:
 - the staff position that accident analyses and radiation limits for individual facilities are within the AEC area of responsibility under the Atomic Energy Act and Reorganization Plan No. 3, and that EPA authority relates to establishing generally applicable environmental standards with AEC bearing the responsibility for implementing such standards through its licensing and regulatory process;
 - 2. Commissioner Kriegsman's view that the revised letter might still not be sufficiently detailed and firm to convey the extent of the staff's concern on this matter, particularly as this might be the last opportunity to present AEC views prior to publication of the EPA standards; and
 - 3. Commissioner Doub's suggestion that it might be desirable to discuss the jurisdictional aspects of the problem with the Director of the OMB in the event the letter to EPA failed to produce its intended effect.

LAS 74-17, 9/4/73

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