

3D901-1

Atomic Industrial Forum, Inc.
7101 Wisconsin Avenue
Washington, D.C. 20014
Telephone: (301) 654-9260
TWX 7108249602 ATOMIC FOR DC

Carl Walske
President

July 11, 1980



DOCKET NUMBER
PROPOSED RULE **PR-60**
(45 FR 31393)

14

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Docketing and Service Branch

Re: Draft Technical Criteria for 10 CFR Part 60
FR 31398 - 31408, May 13, 1980

Dear Sir:

The enclosed comments on the above referenced subject were prepared by the Subcommittee on High Level Radioactive Waste of the AIF's Committee on Nuclear Fuel Cycle Services.

The Subcommittee suggests that the opinions of DOE and other cognizant agencies should be made available for review and that the Advance Notice should be reissued allowing additional time for comment.

Sincerely,

Carl Walske

CW:plg
Enclosure

8007280016

Acknowledged by card... 7/14/80... mdu...



Atomic Industrial Forum, Inc.
7101 Wisconsin Avenue
Washington, D.C. 20014
Telephone: (301) 654-9260
Cable: Atomforum Washingtondc

Comments of the AIF Subcommittee
on
High-Level Radioactive Waste
on
10 CFR 60 "Technical Criteria for Regulating Geologic
Disposal of High-Level Radioactive Waste"

Advance Notice of Proposed Rulemaking
Federal Register, Vol. 45, No. 94, p. 31393-31407
May 13, 1980

The AIF Subcommittee on High-Level Radioactive Waste offers the following comments on the Advance Notice of Proposed Rulemaking regarding the Technical Criteria for Regulating Geologic Disposal of High-Level Radioactive Waste (10 CFR 60), as published in the Federal Register of May 13, 1980. We recognize the desirability of establishing an appropriate regulatory framework for the timely disposal of high-level wastes in geologic repositories; however, we are concerned by the approach being taken by NRC as well as by the lack of a basis for the quantitative values suggested in the Advance Notice.

While it is noted in the Supplementary Information that bases and rationale are being prepared by the NRC staff, the working draft became available for review only recently. Specific or detailed comments on the suggested numerical criteria cannot be made until a thorough review of this draft is completed. At that time we shall offer additional comments.

Because of the importance of such technical criteria, we suggest that NRC publish their bases and rationale, along with appropriate critiques by DOE and other cognizant agencies, and then reissue the Advance Notice of Proposed Rulemaking for comment and review by the public. A period of 120 days would permit thorough evaluation and comment by all interested reviewers.

Comments

1. The approach being taken by the NRC is not consistent with the objective stated on page 31396 nor with the "systems approach" recommended by the IRG. We believe that the NRC should be establishing appropriate criteria

and standards for the performance of the overall system, rather than defining specific performance values for individual components. The systems designer (DOE) should have the flexibility, for example, to permit optimum trade-offs between the waste form and the container design as long as the overall system meets those criteria that insure public health and safety.

2. We believe that several of the criteria represent extremely conservative numbers that cannot be justified on a cost/benefit basis or comparative risk analysis. We suggest that NRC provide appropriate comparative risk analyses to show that there is a rational basis for all quantitative criteria.

For example, in Paragraph 60.111 Overall Performance: The annual release rate of one part in one hundred thousand, based on the total activity remaining 1,000 years after decommissioning, seems to be an unjustified design constraint. At the baseline time of 1,000 years after decommissioning, the bulk of the non-TRU activity would have undergone 25 to 35 half-lives of decay. This implies an additional DF of the initial activity of about 1×10^9 , bringing the overall required DF for non-TRU to about 1×10^{14} , which seems -- unjustified, particularly when this means release from the underground facility into the surrounding strata, and not release to the biosphere.

The proposed release rate of one part in 100,000 of the activity present is a quantitative variable that appears to have no specific basis. Overall release rates should be based on health and safety considerations.

3. We disagree with the statement under Item 4 on Page 31395 that reads: "First geologic disposal is an entirely new enterprise - no experience exists with geologic disposal".

It appears that NRC is not giving appropriate consideration to the wealth of experience that has accumulated over hundreds of years of mining experience, and geologic research and evaluation. Also, geologic and archaeological studies provide data on entombment as a means of protecting man's arts and treasures over periods of thousands of years.

This large technical base of information has been recognized by many groups in both the U.S. and in other countries which have recommended the use of geologic

disposal for HLW. In addition, DOE's (and AEC's) experience base with geologic disposal research and development extends back over twenty years.

4. On page 31398, the question is asked, "Does the list of considerations above clearly, adequately and fully identify the relevant issues involved in disposal of HLW?". Following are several considerations which we believe need to be more fully addressed:
 - 4.1 No discussion is presented about the criteria that will be used as the bases for a decision to permanently enclose the waste. While it may be premature to develop these criteria on a detailed basis, we believe that a general outline of the decision bases should be developed.
 - 4.2 Criteria or considerations regarding the age of the waste are not presented or discussed.
 - 4.3 We believe that waste form is a very important parameter, as is waste type. This does not appear to be considered.
5. While we are in agreement with the concept of retrievability as a general design criteria, we believe that careful evaluation and trade-offs need to be considered before this concept is quantified or broadened extensively. We suggest that retrievability be required only during the emplacement period and until all or a part of the waste disposal facility is defined as a permanent repository.
6. We have also reviewed the recent DOE report regarding the Proposed Rulemaking on the Storage and Disposal of Nuclear Waste, DOE/NE-0007. We agree with the performance objectives noted in that document and presented below:
 - 6.1 Containment should be virtually complete during the period dominated by fission product decay.
 - 6.2 Isolation from the accessible environment should be effective for at least 10,000 years, and reasonably foreseeable events should not produce consequences greater than normal variation in background radiation.

- 6.3 The operational phase of a waste disposal system should be as safe as for other nuclear fuel-cycle facilities.
- 6.4 Environmental impacts should be mitigated to the extent reasonably achievable.
- 6.5 Conservative design and evaluation should be applied to waste disposal systems to compensate for any residual uncertainties.
- 6.6 Acceptable performance should be based on methods reasonably available and should not depend upon continued maintenance or surveillance for unreasonable times into the future.
- 6.7 Concepts selected for implementation should be independent of nuclear industry trends and compatible with national policies.

We suggest that regulatory criteria consistent with these objectives would provide the bases necessary for a practical and safe repository.

It would appear appropriate to reserve our additional comments until after we have had an opportunity to review the bases and rationale.