

ATOMIC INDUSTRIAL FORUM, INC.

850 THIRD AVENUE • NEW YORK 22, N. Y. • PLAZA 4-1075

May 14, 1963

Secretary
U.S. Atomic Energy Commission
Washington 25, D.C.



Dear Sir:

On April 17, 1963, the Atomic Industrial Forum held a seminar to examine the proposed revisions and amendments, published in the March 5, 1963, issue of the Federal Register, to four AEC regulations: 10 CFR 40, "Licensing of Source Material"; 10 CFR 70, "Licensing of Special Nuclear Materials"; 10 CFR 71, "Shipment of Special Nuclear Material"; and 10 CFR 72, "Protection Against Radiation in the Shipment of Irradiated Fuel Elements."

This letter summarizes some of the more significant comments and views expressed by the seminar participants whose names are noted in the attached list. Although company affiliations of the participants have been noted for purposes of identification, the views expressed herein are those of the individual participants and may or may not reflect those of the organizations with which they are associated.

No attempt is made in this letter, aside from a few exceptions, to present specific comments on the many numbered sections of the proposed revisions. The seminar participants felt that the inclusion of such specific comments might tend to detract from their much more serious concern over the underlying philosophy upon which many parts of the proposed revisions appear to have been developed.

Observations

From the many comments and opinions expressed during the seminar discussion there emerged the following general observations to which all of the seminar participants subscribed:

1. Revision of the regulations to set forth criteria to avoid accidental criticality is desirable and could prove helpful to both the AEC and license applicants.

2. The group takes issue with the formulation of regulations based on detailed and rigidly fixed specifications many of which appear to be either without technical justification or subject to ambiguous interpretation. A regulation based on performance criteria where the license applicant has the opportunity and responsibility in complying with the criteria to use all

available technical data and experience is in the opinion of the group much more practical and will assure a higher degree of continued safety.

3. The technical data now included in the body of the proposed revisions to 10 CFR 70 and 10 CFR 71 should be removed and published in separate guides. It is noted that this suggestion is invited by the AEC in the Statement of Considerations preceding the proposed revisions to 10 CFR 70.

4. The technical data included in the proposed revisions should be published in separate guides, but only after they have been modified to assure adequate and uniform, but not unnecessarily excessive, margins of safety.

5. The implication contained in the proposed revisions that criticality control procedures used in contract operations would be inadequate for handling similar materials under license arrangements leads to a dual standard which seriously handicaps the operation of "mixed facilities." Neither the nature of the safety problems encountered nor the proper precautions to be taken are influenced by whether the special nuclear material is being handled in a licensed facility, a contractor facility, or a mixed facility.

Specific Comments

The following section includes some of the comments which were offered by or concurred in by most of the seminar participants. They are entered here in documentation of the above observations. Unless otherwise noted, they refer to both Parts 70 and 71 and, where applicable, also to Parts 40 and 72.

1. In a number of sections of the proposed revisions there appears to be no justification for the information set forth or required of the license applicant since it does not appear to contribute to or relate to health and safety. For example, much of the information requested in Section 70.25 would appear to fall into this category. Although the information in Section 70.24 does relate to health and safety, the group thought that it might prove more helpful to make a cross-reference to 10 CFR 20. Also, the seminar participants felt that certain sections of Parts 70 and 71 tended to confuse criticality controls with radiation protection controls.

The inclusion of extraneous information was believed to be detrimental to the primary objectives of the proposed revisions for one or more of the following reasons: (a) it tends to mask essential elements of the criteria; (b) it may tend to suggest to inexperienced license applicants that strict and literal adherence to various provisions of the proposed revisions will assure safety in the handling and

shipment of special nuclear material, an assumption to which the seminar group does not subscribe; and (c) it tends to support the apprehensions of those in the industry who fear that excessive and unnecessary controls will seriously curtail further expansion in the use of special nuclear material.

2. Several of the technical values in the proposed revisions were questioned (1) either because there appeared to be no justification for their selection, or (2) because they were inconsistent with other technical values referred to in the same proposed revisions, or (3) because their use would appear to provide insufficient or excessive, and hence unnecessary, margins of safety.

As examples of the first type, the group could find no basis for the 500 pound limit inserted in Section 40.52 or for the 30-foot drop test specified in Section 71.65.

Two examples of inconsistencies are to be found in Parts 70 and 71. In Section 70.52(a)(2) it is stated that "each unit in the array is at least 12 inches from every other unit" whereas in Section 70.54(b) it is stated that "there shall in any event be a distance of at least 8 inches between adjacent surfaces of special nuclear material..." Section 71.42 calls for Class I packages to be able to withstand "exposure to the conditions of a standard one-hour fire" whereas Sections 71.52 and 71.65 call for Class II and III packages to be able to withstand "exposure to the first ten minutes of the standard one-hour fire."

A more serious criticism, however, was directed at those technical values which were thought to provide insufficient margins of safety. The group questions the validity of the limits set forth in Section 70.43(c)(2) which in their opinion could lead to a condition of criticality. Also, the k values in Sections 70.52(c)(2)(i) and 70.52(c)(2)(ii) may not be sufficiently conservative when handling special nuclear material of low enrichment.

3. Numerous comments were concerned with sections of the proposed revisions where the intent of the section was considered by the seminar participants to be unclear or ambiguous. For example, the intent of Section 70.33 entitled "Facilities, equipment and procedures" was not understood. The requirements set forth in Section 70.34 seem to be too rigidly specified. Several questions were raised about the need for evacuation drills at the three-month frequency called for in Section 70.35. The value of a fire test on a wooden package as called for in Section 71.42 was questioned as was also the directive contained in Section 71.93 which calls for periodic tests on the effectiveness of moderators and neutron poisons.

4. Review of Part 71 revealed considerable confusion on the part of the seminar participants on the respective control authority to be exercised by the AEC vs. that to be exercised by the ICC and other regulatory bodies. Several participants indicated that the proposed revisions would prove unnecessarily restrictive on the shipment of completed "cold" reactor fuel elements.

It appeared to be a general consensus that Part 71 would tend to preclude commercial shipping services from handling and transporting special nuclear material and thereby leave AEC licensees with no practical alternative other than to carry out their own shipping requirements.

5. Several seminar participants referred to what might best be described as drafting difficulties. For example, they referred to numerous definitions, including those for "moderator," "reflector," "produce," "homogeneous mixtures," etc., which they felt to be either in error or lacking in sufficient preciseness to be useful. They also pointed to instances of mis-used units, e.g. "roentgen" instead of "roentgen-equivalent-man." They also found the use of cross references to be so excessive as to preclude easy interpretation.

It should be pointed out, however, that the group was not so much concerned with the minutiae of the individual examples cited as they were with their aggregate adverse effect on the proposed revisions, making them difficult to interpret and, in the opinion of the group, difficult to administer.

Suggested Course of Action

The seminar participants appreciate that many of the above comments will prove of assistance to the AEC only if further attention is focused on correcting the inadequacies that have been identified. The group is now considering what, if any steps it might take in this regard.

Among the steps considered was a suggestion that selected representatives of the group meet with key AEC staff personnel for an informal discussion of some of the problems that will be created if the proposed revisions are promulgated. Such a discussion could prove particularly beneficial in describing some of the implementation and compliance difficulties that are inherent in a regulation that has been developed in the manner of the proposed revisions to Parts 70 and 71. Relatedly, the group strongly recommended that licensees should not be required to submit new license applications or amendments to or rewrites of existing license applications, so as to conform with the provisions of the proposed revisions until such time as the problems outlined above have been resolved and the revisions as now drafted have been modified.

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Aside from possibly meeting with AEC representatives, it is not likely that the seminar group will be able to go beyond the comments set forth here within the review period designated by the AEC, that is, prior to June 3. The group would therefore be interested in learning whether the AEC would look with favor upon the group's focusing further attention on the problem and at what time such further study should be completed in order to prove of maximum assistance to the AEC.

Sincerely yours,



Edwin A. Wiggin
Technical Projects Manager

EAW:d
Enclosure

cc Messrs. Robert Lowenstein
Harold L. Price
Ernest B. Tremmel

ATOMIC INDUSTRIAL FORUM, INC.

MEETING ON PROPOSED AMENDMENTS TO AEC REGULATIONS

PARTS 40, 70, 71 AND 72

April 17, 1963

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Boutelle, R. H., The Martin Co.

Forscher, Fred, Nuclear Materials & Equipment Corp.

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Hayman, William E., Allis-Chalmers Mfg. Co.

Herbert, R. J., Associated Nucleonics, Inc.

Jones, O. H., The Babcock & Wilcox Co.

Leaders, W. M., Kerr-McGee Oil Industries, Inc.

Matheson, Arthur R., General Dynamics Corp.

Medin, A. Louis, Nuclear Safeguards, Inc.

Reese, S. L., Nuclear Fuel Services, Inc.

Sandhaus, Sol, Nuclear Utility Services, Inc.

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