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FABRICATION PLANTS

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*Plutonium Processing & Fuel Fabrication Plants
Review Site Design SNM plants.*

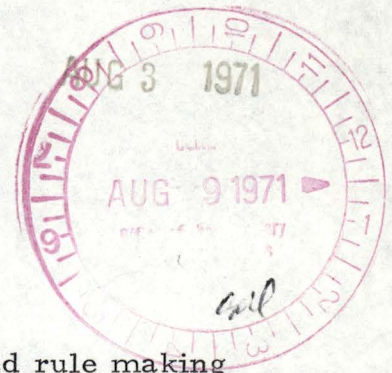
ENVIRONMENTAL PROTECTION AGENCY

RADIATION OFFICE

ROCKVILLE, MARYLAND 20852

DOCKET NUMBER
PROPOSED RULE **PR - 70**

Secretary of the Commission
Attn: Chief, Public Proceedings Branch
U.S. Atomic Energy Commission
Washington, D. C. 20545



Dear Sir:

This is in response to the notice of proposed rule making to amend the Commission's regulation, "Special Nuclear Material," CFR Part 70, as published in the Federal Register, Vol. 36, No. 104, May 28, 1971.

The staff of the Office of Radiation Programs has reviewed the proposed amendment from an environmental protection standpoint. We strongly support the objectives of the Commission as set forth in this proposed amendment and believe its adoption will assist in maintaining and enhancing the quality of the environment. In our judgment, it is extremely important that a thorough technical evaluation of the site and design basis of plutonium processing and fabrication plants be performed before construction is initiated.

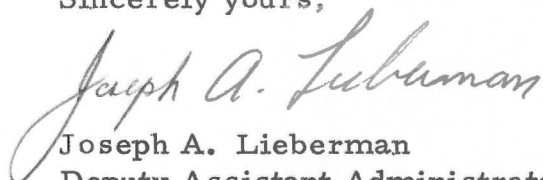
We have a specific comment regarding siting and general design criteria for plutonium facilities. In the introductory remarks to the proposed amendment it is stated "The Commission is developing appropriate siting and general design criteria for plutonium processing and fabrication plants In the interim, the siting principles of 10 CFR Part 100, the General Design Criteria for nuclear power reactors in 10 CFR Part 50 and the criteria used by the Commission to evaluate the adequacy of the design of irradiated fuel reprocessing plants would be used to the extent pertinent."

We are unable to identify the criteria used by the Commission to evaluate the adequacy of the design of irradiated fuel reprocessing plants. Presumably, they will be lower than the 10 CFR Part 100 criteria, to take into account the uncertainty inherent in the relative lack of operational experience with such facilities. Furthermore, because of the unique biological and environmental characteristics

of plutonium, the siting criteria of 10 CFR Part 100 regarding whole body and thyroid dose are not applicable to plutonium facilities. We recognize that some of the criteria and principles in the cited regulations are generally applicable to plutonium processing and fabrication facilities and on an interim basis will provide some guidance in evaluation of these facilities.

The Commission is urged to develop as soon as possible appropriate siting and design criteria for plutonium facilities to insure maximum protection of the public health and the environment. Because of our responsibility for development of environmental radiation standards, we would welcome the opportunity to work with you in developing these criteria.

Sincerely yours,

A handwritten signature in cursive script, reading "Joseph A. Lieberman". The signature is written in dark ink and is positioned above the printed name and title.

Joseph A. Lieberman
Deputy Assistant Administrator
for Radiation Programs

GENERAL ELECTRIC
COMPANY

DOCKET NUMBER **PR-70**
PROPOSED RULE
*Plutonium Processing & Fuel
Fabrication Plants*
NUCLEAR ENERGY

DIVISION

175 CURTNER AVE., SAN JOSE, CALIF. 95125 . . AREA CODE 408, TEL. 297-3000, TWX NO. 910-338-0116

July 28, 1971

Secretary of the Commission
U. S. Atomic Energy Commission
Washington, D.C. 20545

Attention: Chief, Public Proceedings Branch

Dear Sir:

We have reviewed the proposed amendment of 10 CFR 70 concerning Commission review of site and design bases for plutonium processing and fuel fabrication plants which was published in the Federal Register on May 28, 1971 (36 FR 9786), and submit the following comments for the Commission's consideration:

1. In general, General Electric believes that Commission review of site, facilities and equipment design bases prior to plant construction is reasonable and acceptable and that safety may be enhanced by Commission approval of certain aspects of the quality assurance program for plant construction.
2. Paragraph 70.4(r)(2) exempts from the definition of a "plutonium processing and fuel fabrication plant" those plants in which certain research and development activities are conducted utilizing unsubstantial amounts of plutonium (emphasis added). Although we understand the intent of such an exemption, it would appear worthwhile to provide guidance for prospective licensees concerning a more definite quantity which may be called an "unsubstantial amount". At the present time certain licensees possess significant quantities of unencapsulated plutonium used in operations or activities other than those defined in the proposed Paragraph 70.4(r)(1) and, therefore, would be excluded from the requirements of this section as amended. For example neutron or heat source fabricators would fall into this category.

Accordingly, we suggest that a Statement of Consideration should include comparison of "unsubstantial quantity" to that amount of plutonium which is possessed in facilities licensed for use of plutonium in activities not listed in Paragraph 70.4(r)(1), for example neutron and heat source fabrication activities.



Acknowledged by card 8/3/71 era



DOCKET NUMBER PR-70
PROPOSED RULE
Pu Processing & Fuel Fabrication Plants

[illegible]

State of New York
ATOMIC ENERGY COUNCIL
Department of Commerce
112 State Street
Albany, N. Y. 12207

EXECUTIVE SECRETARY
NEAL L. MOYLAN
COMMISSIONER OF COMMERCE

July 23, 1971

Mr. Woodford B. McCool
Secretary
U.S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. McCool:

Representatives of many New York State agencies concerned with plutonium processing and fabrication plants both from the operation and from the public health standpoint have had an opportunity to review the recently published amendments relating to such facilities (36 FR 9786).

Based upon their review, we support the intent of the amendments and offer the following comments:

1) The amendments as published formalize the existing practice of siting such facilities to enhance protection from natural phenomena and to minimize the opportunity for release of plutonium to uncontrolled areas. However, we believe that reliance on Part 50 and Part 100 guidance in these matters should be kept to a minimum and that provisions pertinent to plutonium facilities should be promulgated as soon as possible. The inherently different nature of the radionuclides of interest in siting a power reactor and a plutonium processing or fuel fabrication plant requires that each be regulated individually;

2) It is suggested that §70.4(r)(1)(v) be amended to cover all facilities for the storage of substantial amounts of plutonium rather than only those immediately associated with operations (i-iv);

Acknowledged by: 7/28/21, cr

Secretary, USAEC

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July 28, 1971

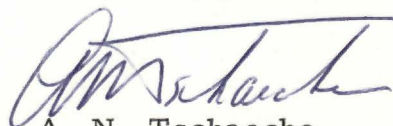
3. Paragraph 70.22(f) would require among other things a description of provisions for protection against natural phenomena. General Electric infers that this requirement applies to natural phenomena which may reasonably be expected to occur in the area of a proposed plant site as demonstrated by valid historical data. For example, one would not expect a plant located in Utah ever to experience a hurricane. Accordingly, we suggest that Paragraph 70.22(f) be modified to read as follows:

"70.22(f)....including provisions for protection against natural phenomena reasonably anticipated at the proposed plant site, and" (underlined words added).

If this suggestion is adopted, similar modification of subparagraph 70.23(b) would be necessary.

We appreciate the opportunity to review the proposed amendment and trust our comments may contribute toward more effective regulation.

Very truly yours,

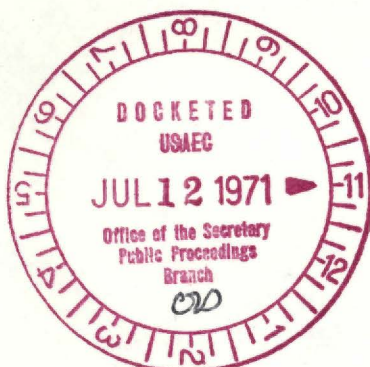


A. N. Tschaeche
Administrator-Licensing
MAIL CODE 273

ems

GULF UNITED
NUCLEAR FUELS CORPORATION

DOCKET NUMBER
PROPOSED RULE **PR-70**
*Pu Processing + Fuel
Fabrication Plants*



GRASSLANDS ROAD
ELMSFORD, NEW YORK 10523
914-592-9000

In reply, please refer to:
WFR-83-71

July 7, 1971

Secretary of the Commission
U. S. Atomic Energy Commission
Washington, D. C. 20545

Attention: Chief, Public Proceedings Branch

Dear Sir:

In response to the proposed changes to 10 CFR Part 70, "Special Nuclear Material", as presented in the Federal Register, Volume 31, No. 104, dated May 28, 1971, Gulf United respectfully submits the following comments.

In principle, we are in accord with the change in rules to require that an application for a license to possess and use special nuclear material in a plutonium processing and fuel fabrication plant be filed before the beginning of plant construction. We feel, further, that the development by the Commission of siting and general design criteria for plutonium processing and fabrication plants is extremely important. However, it is our opinion that these siting and general design criteria should be established before 10 CFR Part 70 is amended as proposed. Although presumably this might entail some delay in the proposed change, it should eliminate considerable confusion as to the standards to be applied.

The announcement in the Federal Register proposes that, in the interim, the siting principles and general design criteria in 10 CFR Part 100 and 10 CFR Part 50, respectively, "be used to the extent pertinent". This is an acceptable alternative if, and only if, the Commission specifically identifies those principles and criteria considered to be pertinent.

In summary, we recommend that the proposed amendment not be made until either the siting and general design criteria have been established or a specific identification has been made of the pertinent principles and criteria already promulgated in 10 CFR.

Very truly yours,

William F. Roche

William F. Roche
Executive Vice President

Acknowledged by card 7/12/71, ew

WFR:kk

Mr. Woodford McCool

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July 23, 1971

3) It is our understanding that the provision of §70.21(f) requiring at least six (6) months between the filing of an application and the beginning of construction will not apply to those facilities for which an application has been submitted prior to the effective date of the regulation;

4) It is suggested that §70.22(f) be amended to require an applicant to include an analysis of the total impact of all facilities at a particular site (e.g. - chemical reprocessing plant and fuel fabrication plant) similar to the consideration of multiunit sites for nuclear power plants.

We appreciate the opportunity you have provided to comment upon these amendments.

Yours truly,



T. K. DeBoer, Director
Technological Development
Programs

cc: Atomic Energy Council
Agreement States

TKD/CCS:djg

ATOMIC ENERGY COMMISSION

10 CFR Part 70

SPECIAL NUCLEAR MATERIAL

Plutonium Processing and Fuel Fabrication Plants

The Atomic Energy Commission is considering amending its regulation 10 CFR Part 70, "Special Nuclear Material", to provide for Commission review of the site and design bases for plutonium processing and fuel fabrication plants for which a license is sought, prior to the beginning of plant construction. The additional requirements would be applicable to plants for the manufacture of plutonium reactor fuel and plants for the conduct of plutonium fuel research and development activities. These plants typically process kilogram quantities of plutonium.

Under the proposed amendments, an application for a license to possess and use special nuclear material in a plutonium processing and fuel fabrication plant would have to be filed at least six months before the beginning of plant construction. Such an application would be required to contain, in addition to other required information, a description of the plant site, a description and safety assessment of the design bases of the principal plant structures, systems and components and a description of the quality assurance program to be applied to the design, fabrication, construction, testing and operation of structures, systems and components of the plant. Applicants for such licenses should select sites which are at reasonable distances from densely populated areas.

The purpose of the Commission's pre-construction review would be to determine whether the applicant's design bases for the principal structures, systems and components, and its quality assurance program provide reasonable assurance of protection against natural phenomena and the consequences of potential accidents. The Commission would approve construction of the principal structures, systems and components of a plutonium processing and fuel fabrication plant when it had made a favorable safety determination. Failure to obtain Commission approval prior to beginning of construction could be grounds for denial of a license to possess and use special nuclear material in a plutonium processing and fuel fabrication plant.

The Commission is developing appropriate siting and general design criteria for plutonium processing and fabrication plants which will include consideration of protection against adverse natural phenomena as well as in-plant accidents. In the interim, the siting principles of 10 CFR Part 100, the General Design Criteria for nuclear power reactors in 10 CFR Part 50 and the criteria used by the Commission to evaluate the adequacy of the design of irradiated fuel reprocessing plants would be used to the extent pertinent. The criteria set forth in Appendix B of 10 CFR 50, "Quality Assurance Criteria for Nuclear Power Plants", would be used in determining the adequacy of the quality assurance programs.

Existing plutonium processing and fabrication plants will be examined with the objective of improving to the extent practicable their ability to withstand adverse natural phenomena without loss

of capability to protect the public and their capability for coping with in-plant accidents.

Pursuant to the Atomic Energy Act of 1954, as amended, and section 553 of title 5 of the United States Code, notice is hereby given that adoption of the following amendments to 10 CFR Part 70 is contemplated. All interested persons who desire to submit written comments or suggestions for consideration in connection with the proposed amendments should send them to the Secretary of the Commission, U. S. Atomic Energy Commission, Washington, D. C. 20545, Attention: Chief, Public Proceedings Branch, within sixty (60) days after publication of this notice in the FEDERAL REGISTER. Comments received after that period will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments filed within the period specified. Copies of comments on the proposed amendments may be examined at the Commission's Public Document Room at 1717 H Street, NW., Washington, D. C.

1. A new paragraph (r) is added to § 70.4 to read as follows:

§ 70.4 Definitions

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(r) "Plutonium processing and fuel fabrication plant"

means a plant in which the following operations or activities are conducted: (1) operations for manufacture of reactor fuel containing plutonium including any of the following: (i) preparation of

fuel material, (ii) formation of fuel material into desired shapes, (iii) application of protective cladding, (iv) recovery of scrap material, and (v) storage associated with such operations, or (2) research and development activities involving any of the operations described in subparagraph (1) of this paragraph, except for research and development activities utilizing unsubstantial amounts of plutonium.

2. A new paragraph (f) is added to § 70.21 to read as follows:

§ 70.21 Filing

* * * * *

- (f) An application for a license to possess and use special nuclear material in a plutonium processing and fuel fabrication plant shall be filed at least six (6) months prior to beginning construction of the plant. The application shall be filed as specified in paragraph (a) of this section, except that 25 copies of the application shall be submitted.

3. A new paragraph (f) is added to § 70.22 to read as follows:

§ 70.22 Contents of applications

* * * * *

(f) Each application for a license to possess and use special nuclear material in a plutonium processing and fuel fabrication plant shall contain, in addition to the other information required by this section, a description of the plant site, a description and safety assessment of the design bases of the principal structures, systems and components of the plant, including provisions for protection against natural phenomena, and a description of the quality assurance program to be applied to the design, fabrication, construction, testing and operation of the structures, systems and components of the plant.^{1/}

4. Section 70.23 is amended by designating the introductory language as paragraph (a); paragraphs (a) - (e) are redesignated as subparagraphs (1) - (5); paragraph (g) is redesignated as subparagraph (6); a new subparagraph (a)(7) is added; and a new paragraph (b) is added to read as follows:

§ 70.23 Requirements for the approval of applications

- (a) An application for a license, other than a license for export, will be approved if the Commission determines that:

^{1/} The description of the quality assurance program should include a discussion of how the criteria in Appendix B of Part 50 of this chapter will be met.

(1) The special nuclear material is to be used for the conduct of research or development activities of a type specified in section 31 of the act, in activities licensed by the Commission under section 103 or 104 of the act, or for such other uses as the Commission determines to be appropriate to carry out the purposes of the act;

(2) The applicant is qualified by reason of training and experience to use the material for the purpose requested in accordance with the regulations in this chapter;

(3) The applicant's proposed equipment and facilities are adequate to protect health and minimize danger to life or property;

(4) The applicant's proposed procedures to protect health and to minimize danger to life or property are adequate;

(5) Where the nature of the proposed activities is such as to require consideration by the Commission, that the applicant appears to be financially qualified to engage in the proposed activities in accordance with the regulations in this part;

(6) Where the applicant is required to submit a summary description of the fundamental material controls provided in his procedures for the control of and accounting for special nuclear material pursuant to § 70.22(b)(2), the applicant's proposed controls are adequate; and

(7) Where the proposed activity is the operation of a plutonium processing and fuel fabrication plant, construction of the principal structures, systems and components approved pursuant to paragraph (b) of this section has been completed in accordance with the application.

- (b) The Commission will approve construction of the principal structures, systems and components of a plutonium processing and fuel fabrication plant on the basis of information filed pursuant to § 70.22(f) when the Commission has determined that the design bases of the principal structures, systems and components, and the quality assurance program provide reasonable assurance of protection against natural phenomena and

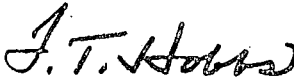
the consequences of potential accidents.^{2/} Failure to obtain Commission approval prior to beginning of such construction may be grounds for denial of a license to possess and use special nuclear material in a plutonium processing and fuel fabrication plant.

^{2/} The criteria in Appendix B of Part 50 of this chapter will be used by the Commission in determining the adequacy of the quality assurance program.

(Sec. 161, 68 Stat. 948; 42 U.S.C. 2201)

Dated at Germantown, Maryland this 14th
day of May 1971.

FOR THE ATOMIC ENERGY COMMISSION



F. T. Hobbs, Acting
Secretary of the Commission