

100-10-1073

CONSENT CALENDAR ITEM

To: The Commissioners

From: Robert B. Minogue, Director
Office of Standards Development

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

William J. Dircks, Director
Office of Nuclear Material Safety
and Safeguards

Thru: Executive Director for Operations *WJ*

Subject: IMPACT OF THE SAFEGUARDS UPGRADE RULE ON NON-POWER REACTOR LICENSEES

Purpose:

1. To obtain Commission approval to defer Non-Power Reactor Licensees from implementing the requirements of the Upgrade Rule and retain the requirements that currently exist for non-power reactor licensees with greater than formula quantities of SSNM.
2. To report on the staff study evaluating the 100 RFM/hour at 3 feet exemption criterion.
3. To obtain Commission approval of the Upgrade Rule for immediate publication.

Date: This paper covers a major issue requiring Commission action

Discussion: Background:

The Commission has before it proposed amendments (SEC-79-10) to 10 CFR Part 73 intended to upgrade physical protection safeguards systems for fuel cycle facilities and transportation involving formula quantities of strategic special nuclear material (SSNM) (Safeguards Upgrade Rule). This proposed rule will have a significant impact on approximately 22 non-power reactor facilities.

Currently, all non-power reactor facilities that have formula quantities of SSNM located in the core of the reactor or stored as irradiated fuel elements are exempted from the

Comments:
L. C. Evers, Jr.
427-4181
S. L. Peadar
432-7146

8302220058 821230
PDR FOIA
HIRSCH82-381 PDR

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requirements of §73.50, but are generally required to meet the requirements of §73.60. The Safeguards Upgrade Rule deletes this exemption as well as Section 73.60 and makes the more stringent upgraded safeguards requirements of the Upgrade Rule applicable to non-power reactor facilities as well as fuel cycle facilities, regardless of the form and substance of the SSNM.

Twenty-two non-power reactor sites (28 reactors) will be impacted (see Enclosure B) and will be required to fulfill the Safeguards Upgrade Rule requirements as currently proposed. However, of these 28 reactors, only 19 currently possess formula quantities of SSNM.

The extent of the impact of implementation of the Safeguards Upgrade Rule was determined as a result of the visits conducted by DOR staff members in conjunction with implementation of Category II, III Rule. Non-power reactors, for the most part, cannot sustain self-protection radiation levels (100 rems per hour at a distance of 3 feet) which would exempt them from the Safeguards Upgrade Rule (a report on this issue is in Enclosure C). If these non-power reactor licensees are forced to meet the requirements of the proposed Safeguards Upgrade Rule, most of them will be economically forced to shut down their reactors. This could damage the U.S. ability to provide needed nuclear training and research and curtail the production of radioactive isotopes for medical application.

Until the staff is able to assess the total effect of the Safeguards Upgrade Rule and alternative options for implementation for non-power reactor facilities, we propose that the Commission defer implementation of the Safeguards Upgrade Rule for non-power reactor facilities. The staff immediately will begin to:

1. determine what impact closure of some of these 22 non-power reactor sites would have, keeping in mind that these non-power reactor licensees are authorized to possess formula quantities of SSNM and must maintain adequate safeguards systems.

NOTE: The staff is aware that these licensees will probably argue under Section 104 of the Atomic Energy Act of 1954 that "The Commission is directed to impose only such minimum amount of regulation of the licensee as the Commission finds will permit the Commission to fulfill its obligations under the act to promote the common defense

and security and to protect the health and safety of the public and will permit the conduct of widespread and diverse research and development." Of course, there are other legal and policy arguments pro and contra.

2. determine if any safeguards credit can be given for the enrichment, type and form of the SSNM possessed by these facilities, and
3. determine if more cost-effective graded requirements or guidance can be developed specifically designed to provide safeguards adequate for protection of SSNM at non-power reactor facilities.

In the interim, until the foregoing studies are complete, non-power reactor licensees will be directed to continue to meet the requirements of §73.60. In NRR's view, the fuel form and radiation level (though not incapacitating) would, in conjunction with existing safeguards, provide adequate safeguards for the limited deferral period.

Recommendations:

1. That the Commission approve the deferral of Non-Power Reactor Licensees from implementing the requirements of the Upgrade Rule and the retention of the requirements that currently exist for non-power reactor licensees with greater than formula quantities of SSNM.
2. That the Commission approve the publication of the Safeguards Upgrade Rule with the changes proposed in Enclosure A.

Coordination:

The Office of Inspection and Enforcement concurs in the recommendations of this paper. The Office of the Executive Legal Director has no legal objection to the recommendations of this paper.

Scheduling:

For consideration in conjunction with the proposed Safeguards Upgrade Rule.

The Commissioners

Sunshine Act
Recommendation:

If discussion is required, this paper should be considered in a closed meeting in accordance with the Sunshine Act Exemption 4.

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Enclosures:

- A. Changes to the Proposed Upgrade Rule
- B. Impact of Upgrade Rule on NPR's
- C. Report on the Self-Protection Criterion

Commissioners' comments or consent should be provided directly to the Office of the Secretary by c.o.b. Friday, July 20, 1979.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT July 18, 1979, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

This paper is tentatively scheduled for affirmation at an Open Meeting during the Week of July 23, 1979. Please refer to the appropriate Weekly Commission Schedule, when published, for a specific date and time.

- DISTRIBUTION:
- Commissioners
 - Commission Staff Offices
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ENCLOSURE A

CHANGES TO THE PROPOSED UPGRADE RULE

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CHANGES TO THE PROPOSED UPGRADE RULE

Paragraphs are numbered to coincide with the proposed Safeguards Upgrade Rule (SECY-79-187), Enclosure A, and presented in comparative text. Deletions are bracketed and dash-lined through and additions are underscored.

4. The undesignated first paragraph of Section 73.6 is revised to read as follows:

§73.6 Exemption of certain quantities and kinds of special nuclear material. A licensee is exempt from the requirements of §§73.20, 73.24, 73.25, 73.26, 73.27, 73.45, 73.46, 73.60, 83.70 and 73.72 of this part, with respect to the following special nuclear material.

This retains the exemption criteria of §73.6 for §73.60 for non-power reactor licensees that also applies to other facilities.

* * * * *

6. Sections 73.30 through 73.36 [~~and 73.60~~] are deleted.

This retains section 73.60.

* * * * *

9. Revise to read:

Paragraph 73.40(b) is revised to replace references to [~~§~~]§73.50 [~~and 73.60~~] with references to §§73.20; 73.24; 73.25; 73.26; 73.45; 73.46; and 73.60.

This retains the requirement for a contingency plan for licensees under 73.60 when applicable.

* * * * *

10. Revise new §73.20(b) (1) and (2), page 20, to read:

- (1) provides the performance capabilities described in section 73.25 for in-transit protection, [or] in section 73.45 for fixed site protection or in section 73.60 for non-power reactor facility protection unless otherwise authorized by the Commission.
- (2) is designed with sufficient redundancy and diversity to assure maintenance of the capabilities described in section 73.25, 73.45, or 73.60; and

This adds section 73.60 to the general performance requirements which will require non-power reactor licensees to meet the requirements of §73.60 when they possess formula quantities of SNM.

Revise new §73.45, page 47, as follows:

§73.45 Performance Capabilities for Fixed Site Physical Protection Systems with the Exception of Non-Power Reactor Facilities.

- (a) To meet the general performance requirements of §73.20, a fixed site physical protection system, with the exception of non-power reactors licensed pursuant to Part 50 of this Chapter, shall include the performance capabilities described in paragraphs (b) through (g) of this section unless otherwise authorized by the Commission.

This exempts non-power reactor licensees from the requirements of the Safeguards Upgrade Rule.

11. Add new paragraph 11 and renumber remaining paragraphs accordingly.

§73.60 is revised to read as follows:

§73.60 Requirements for the Physical Protection of Formula Quantities of Special Nuclear Material at Non-Power Reactor Facilities

In addition to the requirements of ~~§73.50,~~ §73.47 each non-power reactor licensee who, pursuant to the regulations in Part 70 of this chapter, possess at any site or contiguous sites subject to control by the licensee uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium alone or in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U-235)+2.5 (grams U-233 + grams plutonium) shall protect the special nuclear material from theft or diversion as follows:

This makes this rule applicable only to non-power reactor licensees with formula quantities of SNM.

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- 1[[4]]2. Paragraph 73.55(a) . . .
- 1[[3]]3. Paragraph 73.55(b) . . .
- 1[[2]]4. Paragraph 73.55(g) . . .
- 1[[1]]5. Paragraph 73.55(h) . . .
- * * * * *

1[[4]]6. The prefatory language of §73.70 and paragraphs 73.70(c) and (g) is revised to read as follows:

§73.70 Records.

Each licensee subject to the provisions of §§73.20, 73.25, 73.26, 73.27, and/or §§73.45, 73.46, [and/or] 73.55 and/or 73.50 shall keep the following records:

1[[65]7]. Part 73 is amended . . .

1[[7]8]. Paragraph 73.50(c)(1) . . .

1[[8]9]. Paragraph 73.71(a) . . .

1[[9]20]. Paragraph 70.22(g) . . .

* * * * *

2[[0]1]. Paragraph 70.22(h) is amended to [~~delete references to §73.60 and~~
add references to §§73.20, 73.45 and 73.46.

This retains reference to §73.60.

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2[[1]2]. Paragraph 70.32(d) . . .

2[[2]3]. Paragraph 70.32(e) . . .

2[[3]4]. Paragraph 70.32(f) is deleted.

ENCLOSURE B

IMPACT OF UPGRADE RULE ON NPR'S

~~F. 5-17B~~
79-1-7B

FACILITY

DOCKET NO.

AUTHORIZED
POSSESSION LIMITS

WCLA

50-142

10kg

32gPu-Be

U.S. DEPARTMENT OF ENERGY
OFFICE OF REGULATORY AND SAFETY INSPECTION
WASHINGTON, D.C. 20545

ENCLOSURE C - *Secy 79-187B*

REPORT ON THE SELF-PROTECTION CRITERION .

"outside scope."