

For: The Commissioners

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

Thru: Executive Director for Operations

Subject: REGULATION IMPLEMENTING 40 CFR 190, EPA ENVIRONMENTAL RADIATION
PROTECTION STANDARDS FOR NUCLEAR POWER OPERATIONS

Purpose: To obtain Commission approval of a proposed amendment implementing
40 CFR 190.

Category: Major policy question requiring Commission approval.

Issue: What is the best way to implement EPA's 40 CFR 190?

- Alternatives:
1. Publish no rule. Implement 40 CFR 190 on case-by-case basis.
 2. Recommended: Publish short proposed amendment requiring NRC licensees to comply with 40 CFR 190.

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3. Publish longer amendments containing more details on implementation.

Background:

EPA's 40 CFR 190 was published as an effective rule in 1977 (42 FR 2858, January 13, 1977, Enclosure "A"). These standards apply to environmental radiation doses received by the public as a result of nuclear fuel cycle operations, excluding mining operations, radon and radon daughter emissions, waste disposal, and transportation. The standards provide that:

1. Annual doses shall not exceed 25 millirems to the whole body, 75 millirems to the thyroid, or 25 millirems to any other organ of any member of the public.
2. Releases of radioactive material per gigawatt-year produced shall not exceed 50,000 curies of krypton-85, 5 millicuries of iodine-129, and 0.5 millicuries of plutonium-239 and other long-lived alpha emitters.

In accordance with an AEC/EPA Memorandum of Understanding (38 FR 24936, September 11, 1973), NRC will enforce these standards for its licensees. The effective date is December 1, 1980, for uranium mills and December 1, 1979, for other facilities, except for the krypton and iodine limits which have an effective date of January 1, 1983. The standards provide that NRC may grant variances for temporary and unusual operating conditions.

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Discussion:Proposed Regulations

The staff recommends that an amendment on 40 CFR 190 is needed to codify in NRC's regulations the compliance requirement and NRC's enforcement responsibility. Therefore, Alternative 1 (no rule, case-by-case implementation) is not recommended.

Enclosure "B" is a proposed Federal Register notice containing a recommended proposed amendment to implement 40 CFR 190 (Alternative 2). The Statement of Considerations includes preliminary discussion of certain specific issues associated with implementation. Some of these issues are:

1. Operations included and excluded by 40 CFR 190.
2. Definitions of "uranium fuel cycle" and "general environment."
3. Dose limits in 40 CFR 190, which organs are to be included and excluded, and which doses are to be included and excluded.
4. Granting of variances.
5. Technical specifications and reporting requirements for fuel reprocessing plants.

The Commission could adopt lengthy amendments (Alternative 3) covering the details associated with the issues discussed above. The staff has prepared a set of such amendments (Enclosure "C") for the Commission's information. However, the staff prefers the shorter amendment (Alternative 2), because it would allow more flexibility in changing implementation procedures as appropriate.

Licensing Action

The licensing staff is already implementing 40 CFR 190 for individual licensees. This affects about 70 reactors, 20 uranium mills, 7 fuel fabrication plants, and 2 uranium hexafluoride plants.

Reactors - Technical specifications are being written for individual reactors to assure compliance with Appendix I to 10 CFR Part 50. It is anticipated that compliance with Appendix I will assure compliance with 40 CFR 190. New technical specifications for about half of all reactors will be completed by December 1, 1979. The other reactors will be required to submit interim documentation of compliance with 40 CFR 190 until technical specifications are completed.

Fuel Fabrication and Uranium Hexafluoride - The staff has reviewed individual licensees and determined that all but two are probably already in compliance with 40 CFR 190. It is anticipated that all licensees will be in compliance by the December 1979 deadline.

Uranium Mills - The staff must complete additional analysis, including

data on the solubility of radioactive materials around uranium mills, before determination on compliance with 40 CFR 190 can be finalized. (The deadline for uranium mills is one year later than for other facilities: December 1980.)

Impact of Regulations

EPA has addressed the impact of 40 CFR 190 in the associated environmental statement (EPA 520/4-76-016). As discussed above, all fuel cycle licensees are required to comply with 40 CFR 190, and the staff is already taking steps to enforce the standard. The proposed amendment would merely make NRC regulations consistent with existing EPA requirements. Therefore, the proposed amendment would have insignificant impact on the NRC staff, its licensees, or the environment. Neither an environmental statement or value-impact assessment need be prepared.

Recommendation: That the Commission approve the proposed amendment for publication in the Federal Register (Enclosure "B").

Coordination: The Offices of Nuclear Material Safety and Safeguards and Nuclear Reactor Regulation concur in this paper. The Executive Legal Director has no legal objection. The Office of Public Affairs recommends that no public announcement be issued.

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Enclosures:

"A" - 40 CFR 190

"B" - Proposed Federal Register Notice

"C" - Alternative Amendments (longer)

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