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RAlexander
ARoecklein
HPeterson

AUG 25 1987

MEMORANDUM FOR: Those on Attached List

FROM: Robert E. Alexander, Chief
Radiation Protection and Health Effects Branch
Division of Regulatory Applications
Office of Nuclear Regulatory Research

SUBJECT: NOTIFICATION OF FEDERAL AGENCIES OF INCONSISTENCIES BETWEEN
NEW FEDERAL GUIDANCE AND EXISTING PART 20

Doug Collins of Region 11 raised the issue of potential conflicting requirements between the new Federal Guidance on Occupational Radiation Control issued by President Reagan earlier this year and the existing Part 20 requirements. Potential conflicts arise primarily for Federal agencies which are also NRC licensees and who are required to follow both documents. Other NRC licensees who are not Federal agencies are not bound to follow the Federal guidance until we incorporate it into our regulations.

There are several areas of conflicting requirements as shown in the draft enclosure. The draft document is intended to be distributed to Federal agencies (FDA, DOD, TVA, etc.) to identify the potential areas of duplicative and conflicting requirements. The approach suggested to resolve these difficulties is to adopt the more restrictive requirement. This would ensure compliance with both the existing Part 20 and Federal guidance.

These apparent conflicts should disappear with the completion of the rule to revise 10 CFR Part 20. The revised rule is intended to be consistent with the new guidance.

Your comments on or approval of this approach and identification of any other issues or conflicts that should be included in this notice would be appreciated by September 30, 1987.



Robert E. Alexander, Chief
Radiation Protection and Health
Effects Branch
Division of Regulatory Applications
Office of Nuclear Regulatory Research

Enclosure: As stated

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OFFC: RPHEB:RES RPHEB:RES RPHEB:RES
NAME: HPeterson:tr ARoecklein RAlexander
DATE: 8/24/87 8/24/87 8/24/87

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Addressees - Memorandum dated AUG 25 1987

Richard E. Cunningham, Director
Division of Fuel Cycle, Medical, Academic and Commercial Use Safety, NMSS

Malcolm R. Knapp, Director
Division of Low-Level Waste Management and Decommissioning, NMSS

Robert E. Browning, Director
Division of High-Level Waste Management

Frank Congel, Director
Division of Radiation Protection and Emergency Planning

Joanna Becker
Office of the General Counsel

Thomas Martin, Director
Division of Radiation Safety and Safeguards, RI

J. Phillip Stohr, Director
Division of Radiation Safety and Safeguards, RII

John Hind, Director
Division of Radiation Safety and Safeguards, RIII

Richard Bangard, Director
Division of Radiation Safety and Safeguards, RIV

Ross Scarano, Director
Division of Radiation Safety and Safeguards, RV

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NOTICE TO FEDERAL AGENCIES WHO HOLD NRC LICENSES

On January 20, 1987, President Reagan formally approved revised Federal guidance for control of occupational radiation exposure was subsequently published in the Federal Register of January 27, 1987, (52 FR 2822). This guidance implements provisions of the current ICRP dose limitation system and differs from the present NRC regulations in 10 CFR Part 20 in many respects. Publication of a fully revised 10 CFR Part 20 that will implement this Federal guidance is expected early in 1989.

Because the current 10 CFR Part 20 will continue to remain in effect in the interim and during the grace period that will be provided, there are a few areas where complying with the new Federal guidance could result in non-compliance with the present 10 CFR Part 20. Most of these areas are identified in the attached table and are accompanied by suggestions for avoiding non-compliance with the current 10 CFR Part 20 or with the Federal guidance during the interim period until compliance with the revised Part 20 is completed.

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Federal Guidance

Present Part 20

Interim Approach to avoid Non-Compliance with current 10 CFR Part 20

Annual effective whole body dose is 5 rems EDE* per year without a quarterly limit.

Limits occupational whole body doses to 3 rems DE* per quarter (1.25 rems if prior exposure unknown). If the guidance annual limit or a major fraction of it were received in a calendar quarter, the 3 rems limit might be exceeded

Keep all whole-body doses within 3 rems DE per quarter and 5 rems EDE per year. This will also help in ensuring that the present 5(N-18) lifetime dose restriction is satisfied.

The new guidance uses the effective dose equivalent quantity with which external and internal doses are combined.

Requires compliance with external dose and radionuclide intake limits separately.

Keep separate whole body and intake records as presently required. Also ensure compliance with the following formula:

$$\frac{H}{5} + \sum_j \frac{I_j}{I_{jL}}$$

where H is the annual whole-body external dose equivalent, and I_j is the annual intake of radionuclide j. For alpha emitters, I_{jL} is the ALI specified in ICRP-30. For beta emitters, I_{jL} is the product of the airborne concentration level in Table 1 of Appendix B to 10 CFR 20 and the annual volume of air breathed specified in Part 20 (Footnote 3 to §20.103).

* DE - Dose Equivalent
EDE - Effective Dose Equivalent

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Federal Guidance

Present Part 20

Interim Approach to avoid Non-Compliance with current 10 CFR Part 20

Many of the derived air concentrations would be Federal guidance.

Appendix E limits remain in force.

Ensure that:

$$\sum \frac{I_j}{I_{jL}} \leq 1,$$

where for alpha emitters, I_{jL} is the ALI specified in I_{jL} is the product of the airborne concentration level in Table 1 of Appendix B to 10 CFR 20 and the annual volume of air breathed specified in Part 20 (Footnote 3 to §20.103).

The concentration limits for some radionuclides are decreased.

For these radionuclides, especially for alpha-emitters such as ^{232}Th , compliance with new Derived Air Concentrations (DAC's) would ensure that the Part 20 limits are also met.

Limit for lens of eyes is 15 rem per year

Limit for lens for eyes is 1.25 rems per quarter

Keeping doses to lens of eyes within Part 20 limits will ensure that the Federal guidance is also met.

Limit for skin and/or extremities is 50 rems/year.

Limit for skin is 7.5 rems/quarter (30 rems per year) and for extremities is 18.75 rems/quarter (75 rems/yr).

Keep exposures of extremities within the Federal guidance (50 rem per year) and within 18.75 rem per quarter limit of Part 20. Keep skin (other than extremities) exposure within 7.5 rems per quarter.

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Federal Guidance

Present Part 20

Interim Approach to avoid
Non-Compliance with current
10 CFR Part 20

A summary of annual, cumulative and committed effective dose equivalents should be provided to each worker on no less than an annual basis; more detailed information concerning his or her exposure should be made available upon the worker's request.

(Part 19) §19.13(b) and (c) require reports to the worker of the workers annual exposure upon request.

Provide the reports as required by the Federal guidance without prior request. This would not be viewed as non-compliance with NRC regulations.

Limit on dose to unborn child of "declared pregnant woman" to 0.5 rem.

No special limit

Observe the Federal guidance