COMSECY-00-0009

January 31, 2000

MEMORANDUM TO: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield

FROM: William D. Travers ***/RA/***
Executive Director for Operations

SUBJECT: RULEMAKING ON DISCRETE RADIOACTIVE PARTICLE DOSE CONSTRAINT

In a memorandum on this subject to the Commission dated October 27, 1999, (Attachment), the staff informed the Commission of a change in direction on this rulemaking necessitated by the receipt of new technical information. The staff also committed to provide the Commission with a revised schedule for completing the technical work and developing the rulemaking. The purpose of this memorandum is to discuss the staff's plans and schedules for completing the technical work and rulemaking.

Since the Commission's approval in December 1998 to develop the Discrete Radioactive Particle (DRP) dose constraint rule, it has become apparent that there is a more desirable course of action that would provide relief from the financial and dose burden associated with frequent monitoring of workers during work shifts. This monitoring is claimed by the nuclear industry to result in as much as 5 person-rem of additional external dose in the industry per plant outage (at $20K per person-rem, this is a burden of approximately $5 million per year). The course of action proposed in the staff's rulemaking plan (SECY-98-245) and approved by the Commission was to develop a rule to implement the draft National Council on Radiation Protection and Measurements (NCRP) recommended dose limit for DRPs. This approach which has already been reviewed by the States and other stakeholders, could result in a proposed rule to the Commission within about six months. The problem with this approach is that it establishes a new dose limit for a very special case of irradiation of the skin.

The staff's alternative approach, informally advocated by the NCRP, is to establish a single, unified skin dose limit that would apply to any shallow dose equivalent to the skin regardless of the source or geometry of the irradiation. This unified limit would serve as a limit to dose from DRPs on or off the skin, small areas (less than 1 square centimeter) of skin contamination, large area skin contaminations, and shallow dose equivalent that might result from any other external source.

This unified skin dose limit approach would require, however, changing the fundamental definition of shallow dose equivalent, stated in 10 CFR Part 20 as "...the dose equivalent at a tissue depth of 0.007 centimeter (7 mg/cm^2) averaged over an area of 1 square centimeter." The change would be to permit averaging over 10 square centimeters. The staff believes that changing this fundamental definition of shallow dose equivalent would be strengthened with formal, authoritative recommendations from the NCRP.

The staff prefers the alternative approach because it would lead to a simpler skin dose limit with universal application, would reduce unnecessary burden, would provide uniform health protection to workers from all skin exposures, and would eliminate most of the additional dose currently attributed to monitoring for DRPs during work shifts.

This alternative would require a grant to the NCRP to develop an advisory or report that would provide the technical basis for the rule. NCRP's work would take about one year and would cost approximately $100K over FY 2000, to be shared by NRR and NMSS. The FTE to oversee this technical work, develop and coordinate the revised rulemaking with the NRC staff, external stakeholders and Agreement States, is estimated to be 0.5 for NRR and 0.1 for other offices. Upon receipt of NCRP recommendations, the staff would develop a rulemaking plan with Agreement State and other stakeholder input within six months and forward it to the Commission for approval. Once the rulemaking plan is approved by the Commission, a proposed rule would be submitted within six months and a final rule 9 months thereafter.

The staff's proposed schedule is as follows:

Receive NCRP recommendations	1 year (after initiation of contract)
Develop and submit reviewed rule plan	+ 6 months
Submit proposed rule	+ 6 months
Final rule	+ 9 months

We are requesting Commission approval of the staff's preferred approach to limiting dose to the skin from DRPs as described in this memorandum.

SECY, please track.

Attachment: Commission Memorandum dated 10/27/99

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cc: SECY
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