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NUCLEAR REGULATORY COMMISSION  
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July 19, 1990

OFFICE OF THE  
COMMISSIONER

MEMORANDUM FOR: Samuel J. Chilk  
Secretary  
FROM: Forrest J. Remick  
Commissioner  
SUBJECT: SECY-90-237, MINOR REVISIONS TO 10CFR PART 20,  
AND SRM FOR SECY-88-315, SECY-90-267, AND  
SECY-90-237 89

Although all of the proposed revisions to this draft final rule look reasonable, I believe additional ones are needed: 1) to establish the staff's rationale for using the lifetime risk coefficient of 5E-4 fatal cancers per rem; 2) to correct an arithmetic error in the discussion of UNSCEAR-88 findings on risk coefficients; 3) to provide a more effective rationale for the decision to proceed with our new 5-rem/year occupational dose limit despite the draft ICRP recommendation of 2 rem/yr; and 4) to modify the staff requirements memorandum to have the concluding paragraph of the backfit analysis clarify that the backfit rule's cost justification standard does not apply to a redefinition of adequate protection.

As I understand it, the rationale for the staff's preferred risk coefficient of 5E-4 is that while 4E-4 remains a good working coefficient for occupational exposures, the greater susceptibility of fetuses and children makes 5E-4 a better number for the population as a whole. This or any other convincing line of reasoning should be made plain in the Statement accompanying the rule.

The arithmetic error indirectly relates to this issue. On p. 5 of SECY-90-237, the discussion notes that the range of fatal cancer risk from lower doses in UNSCEAR-88 (.7E-4 to 3.5E-4) is .6 to 5 times higher than the 1977 ICRP risk value of 1.25E-4. The correct relationship of 3.5 to 1.25 is about 3 times, not 5.

Finally, in our discussion of the draft ICRP recommendation of a reduced occupational dose limit of 2 rem/yr., we should make it clear that even though only a few individuals are exposed at or near that level, we take seriously the possibility that 2 rem/yr. could become the new standard, and even the few now exposed to that much could turn out to be a few too many.

Thus, instead of suggesting that we don't need to revise our rules because only a few individuals would be affected, I believe we

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could more effectively argue along the following lines: 1) the expert consensus jury is still out on the draft ICRP recommendations; and 2) in the meantime, a 5-rem/yr. standard is better than a standard allowing up to 17 rem/yr., and we shouldn't further delay the well-supported 5-rem standard in anticipation that ICRP's draft recommendation will supersede it; but 3) we will be prepared to re-evaluate our standard when and if ICRP adopts 2 rem/yr. as a final recommendation. We should be prepared to say that we plan to review the major comments of the professional community and others on the draft ICRP recommendations and ICRP's response to them. We should also note that we will review or participate in the deliberations of other expert bodies, such as the NCRP and CIRRPC, respectively, on the need for further revision of occupational radiation protection standards after the final ICRP recommendations are published.

Finally, the staff requirements memo for the final rule should clarify that the key difference in proceeding with the rule as a redefinition of adequate protection and proceeding subject to all backfit rule requirements is that under the redefinition option, the Commission does not apply the cost-justification standard. The SRM instructs the staff on page 2 that the backfit analysis should conclude with the paragraph provided on that page. As currently drafted, that paragraph says that redefinition "is one of the circumstances described in 10 CFR 50.109 where a backfit analysis is not required." The Commission makes a "documented evaluation" under Section 50.109(a)(4) very much like a backfit analysis for every rulemaking subject to backfit requirements, even for a redefinition of adequate protection, but the difference for a redefinition is that the analysis does not apply the cost-justification standard. To avoid leaving the misimpression that future redefinitions of adequate protection would have no accompanying analysis at all, I suggest that the concluding phrase of the indented paragraph, ("which is one of the ... not required.") be replaced with the following: "... and the backfit rule's cost justification standard does not apply to a redefinition of adequate protection."

I understand that as a result of its continuing internal reviews, the staff is already working on revisions to address most of the issues I have raised here. I again commend the staff for its diligence on this important rule, and look forward to a revised final version in the near future.

cc: Chairman Carr  
Commissioner Rogers  
Commissioner Curtiss  
EDO  
OGC