



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON NUCLEAR WASTE  
WASHINGTON, D.C. 20555

October 23, 1991

Mr. James M. Taylor  
Executive Director for Operations  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Taylor:

SUBJECT: REGULATORY GUIDES BEING DEVELOPED IN SUPPORT OF THE  
REVISED 10 CFR PART 20, "STANDARDS FOR PROTECTION  
AGAINST RADIATION"

On September 23 and 24, 1991, the Regulatory Guide Working Group of the Advisory Committee on Nuclear Waste (ACNW) and the Subcommittee on Occupational and Environmental Protection Systems of the Advisory Committee on Reactor Safeguards (ACRS) met jointly with the NRC staff to discuss twelve regulatory guides related to the implementation of the revised 10 CFR Part 20. During this meeting, we also had the benefit of comments by a representative from the Nuclear Management and Resources Council (NUMARC). The eight guides for which the ACNW accepted lead review responsibility were subsequently discussed during the 35th and 36th meetings of the ACNW on September 27 and October 18, 1991, respectively. The ACRS provided a letter to you on October 17, 1991, with comments on the four proposed regulatory guides for which they retained lead review responsibility. This letter summarizes separately our general comments on this subject.

1. Although the staff has made significant progress in developing these guides, much work remains to be done. In addition to required editorial changes, there is a need to outline the basic premises that support certain key assumptions and/or judgments in several of the guides. In others, there are technical errors that need to be corrected both in the guides and the supporting NUREG documents. Some of the information appears to be incomplete while other information appears to be far too prescriptive. Specific details in each of these areas were brought to the staff's attention during our discussions.
2. Although it is recognized that the contents of these guides are restricted to the implementation of the revised 10 CFR Part 20, this effort offers an opportunity to incorporate into these guides newer nomenclature and concepts that will help bring NRC licensees up to date on current thinking in the radiation protection field. As a minimum, we recommend that the NRC staff incorporate into these guides the SI units and the newer dose terminology of the International Commission on

Radiological Protection. This information can be included, parenthetically, immediately following the traditional units and terminology.

3. The NUMARC representative informed us that the guides most desired by commercial nuclear power plant licensees were not necessarily those in the most advanced stages of development. Guides of immediate interest to these licensees include those that will provide instructions for recording and reporting occupational radiation exposure data and those for estimating the dose to the embryo/fetus. We urge that completion of these guides be expedited. At the same time, we believe that the time and effort required to revise the existing drafts of the guides, to issue them for public comment, and for the staff subsequently to consider and evaluate the resulting comments, may make the scheduled date for implementation of the revised 10 CFR Part 20 unrealistic. It appears appropriate that the Commission reevaluate the proposed schedule so as to avoid unnecessary complications in the future.
4. Although we agree that guidance is needed in a number of the subject areas being covered in this effort, questions arose in several cases whether the guide being developed by the NRC staff is the best mechanism for accomplishing this task. We understand, for example, that the American National Standards Institute is developing consensus standards on air sampling and monitoring. Consideration should be given to citing these standards as a possible substitute for the development of a detailed regulatory guide. It is also possible that some of the instructional information concerning risk from occupational radiation exposures might better be issued as a NUREG document or educational pamphlet.
5. We believe that the NRC staff should encourage licensees to use electronic information processing and communicating systems, where appropriate, to report the data suggested by these guides. We are pleased to note that in draft Regulatory Guide 8.7 (Rev. 1), "Instructions for Recording and Reporting Occupational Radiation Exposure Data," the staff recommends the use of such systems. To the extent possible, the staff should work with licensees to develop software for reporting, maintaining, and summarizing the various recommended data sets in the proper format.
6. One of the guides being developed relates to the determination of the dose to the embryo/fetus. This is a pioneering effort, and the staff is to be commended for the major contributions it is making in providing guidance in this area. Guidance provided on this subject by organizations such as the National Council on Radiation Protection and Measurements and the International Commission on Radiological Protection, for

example, is very limited. At the same time, however, we believe it is important to recognize that the associated dose estimations involve large uncertainties and that the subject, itself, has particularly troublesome legal and ethical ramifications. This guide should be carefully reviewed with these thoughts in mind.

7. One topic not covered either in these guides or in the revised 10 CFR Part 20 is guidance on the limitation of occupational radiation exposures in accident situations. We recommend that the NRC staff make a note of the need for this type of information and, when time and resources permit, develop guidance on this subject. Specific topics to be addressed include acceptable doses under accident situations, perhaps as a function of the challenge faced, and whether doses received under these conditions would be "forgiven" in a regulatory sense.

Additional details regarding our comments on the individual guides are available in the transcript of the meeting held on September 23 and 24, 1991.

We look forward to continuing interactions with the staff as the development of these guides progresses.

Sincerely,



Dade W. Moeller  
Chairman

References:

1. U.S. NRC, Draft Regulatory Guide DG-8003, "Air Sampling in the Work Place," August 1991.
2. U.S. NRC, Draft Regulatory Guide DG-8004, "Radiation Protection Programs for Nuclear Power Plants," September 1991.
3. U.S. NRC, Draft Regulatory Guide DG-8005, "Assessing External Radiation Doses from Airborne Radioactive Materials," September 1991.
4. U.S. NRC, Draft Regulatory Guide DG-8006, "Control of Access to High and Very High Radiation Areas in Nuclear Power Plants," September 1991.
5. U.S. NRC, Draft Appendix B to Regulatory Guide 10.6, Revision 2, "Preparation of Applications for the Use of Sealed Sources and Devices for Performing Industrial Radiography," July 1991.
6. U.S. NRC, Draft Appendix X to Regulatory Guide 10.8, Revision 1, "Preparation of Applications for Medical Use Programs," July 1991.

7. U.S. NRC, Draft Regulatory Guide 8.N7, "Dose to the Embryo/Fetus," August 1991.
8. U.S. NRC, Draft Regulatory Guide 8.29, Revision 1, "Instruction on Health Risks from Occupational Exposure," July 1991.
9. U.S. NRC, Draft Regulatory Guide 8.9, Revision 1, "Interpretation of Bioassay Measurements," March 7, 1991.
10. U.S. NRC, Draft Regulatory Guide 8.N5, "Criteria for Monitoring Thresholds and Procedures for Summation of Internal and External Occupation Doses," July 1991.
11. U.S. NRC, Draft Regulatory Guide 8.N6, "Planned Special Exposures," August 1991.
12. U.S. NRC, Draft Regulatory Guide 8.7, Revision 1, "Instructions for Recording and Reporting Occupational Radiation Exposure Data," July 1991.