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Submitter Information

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General Comment

See attached file(s)

Attachments

NRC-2009-0279 Comments

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
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November 24, 2014

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-001
ATTN: Rulemakings and Adjudications Staff

Dear Rulemakings and Adjudications Staff:

SUBJECT: Docket ID NRC-2009-0279

Although Michigan is not an Agreement State with the Commission, the Department of Environmental Quality (DEQ), Radiological Protection Section (RPS) wishes to comment on the "10 CFR 20 Advance Notice of Proposed Rule Making" that was published in the Federal Register on July 25, 2014. Being concerned with protecting both public health and the environment from radiation hazards, we submit the following circumspect comments. In a nutshell, we are supportive of incorporating accepted International Council of Radiation Protection (ICRP) concepts and standards (i.e., ICRP 103) published since 10 CFR 20 was last revised in 1991. For example ICRP 103 has weighting factors for eight more organs than does ICRP 26; namely colon, stomach, bladder, liver, esophagus, skin, brain, and salivary glands. Moreover, ICRP 103 reduced the postulated tissue weighting factor for gonads to 0.08 as compared with ICRP 26's value of 0.25. These and other discrepancies between ICRP reports suggest to us that an update to 10 CFR 20 is warranted.

We note that Canada's Nuclear Safety Commission has begun integrating ICRP 103 into its regulations. Discussion of their experiences with implementing this change on their licensees may prove advantageous for U.S. Nuclear Regulatory Commission (NRC) staff assigned to do this work.

Q1-1: What are the implications of changing the NRC's regulations to specify "total effective dose" in place of the current term "total effective dose equivalent?" To the extent possible, please provide specific implementation and operational cost information on the impacts of this change relative to licensee procedures, training, and record keeping, and reporting. This information is necessary for the NRC to determine whether the imposition of such requirements on NRC licensees is justified.

Our staff mostly works with sealed sources; therefore we do not often need to compute internal dose. Assuming that NRC will continue to allow us to equate monthly dosimeter report readings to a non-tissue weighted whole-body parameter such as deep dose equivalent, our activities should not be impacted much.

While these changes should not specifically impact the radiological emergency preparedness (REP) plan of the State, some comments are worth noting:

The Federal Emergency Management Agency (FEMA) REP Program Manual (June 2013) references use of the total effective dose equivalent (TEDE) (Page II-102-107) for emergency worker dose control. A change in terminology could impact current guidance provided to the State for the purposes of planning and establishment of administrative dose limits. State and local plans would require updates, training and explanation would need to be given to decision makers at the state and county level to implement the update.

We would expect this change to further impact the basis of radiological emergency preparedness documents including NUREG-0654 and the FEMA REP Manual.

Will RASCAL be updated to account for the new terms and population groups?

Q1-2: If the NRC adopts the dose assessment terminology and methodology of ICRP Publication 103 (2007) in a future rulemaking, what time period should the NRC consider providing for implementation of the ICRP Publication 103 (2007) methodology and terminology.

1 year for a non-agreement state, 2 years for an agreement state. We think that non-agreement states will defer to NRC, whereas Agreement States run their own program and may need additional time to implement necessary changes and have them finalized by officials.

Q1-4: Should the public dose limit of 50 mrem continue to be the basis for the effluent concentration limits for the radionuclides in 10 CFR Part 20, appendix B, Table 2, Columns 1 and 2? Should it be reduced or otherwise modified?

We feel that the current Appendix B limits are sufficiently conservative and protective of public health for air/sewer/water releases by nuclear plants and other licensees.

Q2-1: Is closer alignment with or adoption of the ICRP Publication 118 (2012) recommendations regarding the dose limits to the lens of the eye appropriate given the scientific information now available?

We suggest that this question be put in writing to an acknowledged expert eye disease and treatment group such as the American Academy of Ophthalmology.

Q2-7: What are the potential impacts of State regulatory programs of a reduction in the occupational dose limit to the lens of the eye from the current NRC regulatory standard of 150 mSv (15 rem) to 50 mSv (5 rem)?

We don't foresee this having any significant impact on our licensed activities.

Q3-1: Are there any significant anticipated impacts associated with reducing the dose limit to the embryo/fetus of a declared pregnant woman, including operational impacts? What are the potential implementation and operational costs?

There may be some impacts from the standpoint of radiological emergency response operations. Emergency workers have a different set of dose limits applied to the emergency and a woman that is not normally an occupational worker in radiation may be called to respond. If they happen to be pregnant at the time, these limits would then apply instead of the emergency limits and could go unnoticed during the event.

Emergency response criteria also follow 10 CFR 20 but there is no additional criterion set forth in Regulatory Guide 8.13 specific to emergency response situations. It would be nice to have some guidance or recommendations specific to this case.

If there are any questions regarding these comments, please contact me via telephone; yalek@michigan.gov; or DEQ, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

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