

NRCREP Resource

From: David C. Kocher [dck@senes.com]
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David C. Kocher (dck@senes.com) on Thursday, August 27, 2009 at 10:44:41

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comments: I understand from public comments by NRC staff that one of the concerns about aligning regulations in 10 CFR Part 20 with recommendations in ICRP Publication 103 is the potential impact of lowering the annual dose limit for occupational exposure from 50 mSv (5 rem) to essentially 20 mSv (2 rem). I have a suggestion on how this concern might be addressed.

Let me start by offering an opinion that, in general, a lowering of the occupational dose limit as recommended by ICRP seems appropriate, and I support it. On the basis of current knowledge of risks from exposure to radiation, allowing a dose (effective dose) of 5 rem/year over many years results in an assessed risk that most people would judge to be intolerable. I appreciate that ICRP and NRC do not regulate based on limitation of risk (and I also appreciate the power of the ALARA requirement), but we must be mindful of risks and attempt to limit them appropriately.

Now to my suggestion. I believe that one way to address concerns about impacts of reducing the dose limit for occupational exposure would be to incorporate the concept of "informed consent" into radiation protection standards. It might work something like this. The reduced dose limit generally would apply to any worker who is in a position of having to take orders about their work activities (members of trade unions, for example), meaning essentially that if they don't follow orders, they are out of a job. However, any worker (especially health or radiation protection professionals) who is adequately trained and knowledgeable about effects of radiation and gives their consent could be allowed doses up to the present limit (or beyond; why not if a worker really is knowledgeable by education and experience?). In other words, I would make a distinction between workers who really are knowledgeable (a typical training or refresher course given to union members or health phys!

ics technicians, say, would not suffice for this purpose) and those who know only what they've been told, don't really have the knowledge to evaluate information independently, don't really and understand what it means.

With a new idea like this (I haven't seen it discussed elsewhere), the devil would be in the details. However, I do believe that we should be vigorous in protecting workers who essentially are at the mercy of their employers, but that we ought to allow some individuals to choose to receive any dose they feel is necessary to carry out their responsibilities. For example, why should we limit the dose to a physician or radiologist who prescribes and carries out a medical procedure that involves high doses to themselves if that individual freely consents to those doses?

Thank you for your consideration.

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