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(8)

The intent of the petition appears to be an attempt to require all dosimetry used to determine dose as recorded onto a Form 5 to meet certain accuracy and precision requirements. As such, the intent of the petition has merit. However, the proposed rule has some inherent problems that I have attempted to outline below.

1. As written, the petition would require all dosimetry to be processed by a dosimetry processor that was NVLAP accredited. Electronic dosimetry is included because it is used for compliance with technical specifications, a part of the license, by nearly all nuclear plants in the country. While there was a clarifying statement subsequently written discussing primary and secondary dosimetry, it is not part of the rulemaking petition.
2. The petition basis states that NVLAP technical experts, not the NRC, should determine whether a licensee's dosimetry program is adequate. In other words, instead of simply evaluating a dosimetry program to certain performance standards in categories selected by the licensee, the NVLAP technical expert would be empowered to dictate to the licensee the categories for which testing would be required. Currently, that is the purview of the NRC and is based on 10CFR20.1501(c).
3. NVLAP testing costs to would at least double for processors. If a processor has a dosimeter already NVLAP tested as a whole body dosimeter that is currently used as an extremity dosimeter, that dosimeter would require testing twice, once as it is now and again to the standard for extremity dosimetry. If testing of a dose control device, e.g., electronic dosimetry or pocket ionization chambers, is also required, costs could triple or quadruple. These costs would be borne by processors but would affect all licensees who either are processors or obtain dosimetry from commercial processors. This might well have the effect of causing some processors to cease operations. While I don't believe cost alone should be used as a basis for rejecting this petition, cost should be a consideration in determining whether to subject this proposed rule change to the backfit criteria since many of the licensees involved are commercial nuclear power facilities.
4. I don't believe there is currently a viable standard in place for electronic dosimetry upon which NVLAP testing could be based. The testing facilities currently accept electronic dosimetry and test it using ANSI N13.11 (adapting the requirements as they deem necessary). However, the protocol and requirements of this standard are not geared toward a device that gives you an instant readout of results or require something from the test facilities other than irradiation. Processing between irradiation and results is assumed. Strictly speaking, all the test facilities are to do is irradiate the devices and give them back to the processor. All it would take to effectively stop any NVLAP testing of electronic dosimetry is for the test facilities to take the position that nothing will be accepted without a dedicated standard describing test protocol.
5. The petition does not address the situation where the dose of record must be determined using something other than the intended NVLAP accredited device and process. Namely, if the TLD is lost and, for example, electronic dosimetry or pocket ionization chamber results are used for dose of record, does this mandate NVLAP accreditation of pocket ionization chambers or electronic dosimetry in case the results are used as dose of record? Does the same logic apply to survey instruments when radiation levels and time/motion studies are used to determine dose?
6. Electronic dosimetry is concluded to be "processed" by the petitioner based on the fact that some process must occur between deposition of radiation energy and read out of the dose. There is no argument that that deposition of radiation energy does not cause a direct indication of dose in any device, except perhaps pocket ionization chambers. If, therefore, all dose measuring devices are devices requiring processing and must be supplied by a dosimetry processor, are all manufacturers and/or end users of these devices now to become NVLAP certified processors?

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