DOCKET NUMBER
PETITION RULE PRM 20-25
(68FR 23618)

Response to State of Illinois Department of Nuclear Safety letter in regards to Docket Number Petition Rule PRM-20-25, May 4, 2003

(4)

The State of Illinois provided the following comments to my petition for rulemaking:

1. While IDNS agrees that it is generally desirable for dosimetry to be NVLAP accredited, there are certain situations where NVLAP accreditation is impossible. For example, NVLAP accreditation is not available for all neutron fields. Adoption of the petitioner's proposal would leave no compliance options for licenses with radiation fields beyond the standard NVLAP parameters.

   Petitioner's Response: The IDNS is accurate when they state that NVLAP does not include all neutron fields that can be found in the field. This is also true for high and low energy photons as well as beta radiation. NVLAP testing is based on ANSI N13.11-2001 requirements. The current ANSI N13.11-2001 expanded the NIST beam codes to be available for testing from 5 up to a possible 59. In addition, bare Cf-252 was added to supplement the previous moderated Cf-252 field. The licensee or facility that uses x-ray-generating equipment may chose what NVLAP categories to test in. The facility is not required to test in every category, only those that are representative of the filed use in which their employees are exposed to. The categories chosen for testing are to be validated by the NRC and/or state regulatory agency when the facility is inspected. Based on the state's position with respect to this petition, they would have one never test to any standard if the standard does not address all photon, beta and neutron possible energy spectra. The intent of NVLAP is top test the various energies across a broad spectra. The newly revised ANSI N13.11-2001 does do just that. As far as the last sentence where IDNS states "Adoption of the petitioner's proposal would leave no compliance options for licenses with radiation fields beyond the standard NVLAP parameters", that is the case today with the photons tested. Does IDNS then assume to state that if a facility works with an x-ray filed that does not get tested in the standard, that the facility need not test to NVLAP? The answer is no, since the IDNS, as do all other states, requiring personnel who wear a whole body dosimeter that is processed, wear one that is NVLAP accredited. The petition does not change that. The petition states that all whole body as well as extremity dosimeters shall require NVLAP accreditation. If there is no specific test for a specific energy, be it photon, beta or neutron, then there is no test. That does not change the fact that there is a standard to be met. Where there is no current test, the facility still must demonstrate to the regulatory agency how they justify using the specific dosimeter they provide their employees. This has been the case in the past and that fact does not change with this specific petition.

2. The petitioner does not propose a satisfactory solution for backup dosimetry. Although the petitioner points out that certain licensees issue redundant dosimetry to their personnel, that does not completely eliminate solutions where the primary dosimetry is lost, contaminated, or otherwise not useable. In these cases, the license must still assign a dose of record and should be able to do so using secondary non-

NVLAP dosimetry. USNRC or Agreement State inspectors should carefully evaluate the use of secondary Dosimetry for compliance purposes.

Petitioner's Response: In the IDNS comment above, they are simply stating what is the current situation with secondary dosimetry. To consider the effect of using a secondary dosimeter, at the same time that IDNS does not support the primary dosimeter to be NVLAP accredited, as recommended in the petition, does not make any sense to the petitioner. Granted, I do not address secondary dosimetry. My intent is not to have every facility NVLAP approve both the primary and secondary dosimeter that is worn. In that a facility can calculate a dose when the primary dosimeter is lost, that is an accepted method. My intent is not to force a facility to NVLAP test every dosimeter they may wear, when they have provided additional dosimetry, where a facility may only wear a single dosimeter. The facility may elect to test both the primary and secondary dosimeter, but that is not a requirement the petition proposes. The USNRC and Agreement State inspectors should evaluate any dose of record that was derived from a secondary dosimeter or from a calculation based on surveys, stay times or other parameters that were used to perform the dose reconstruction. That issue has nothing to do with this petition. The petition addresses primary dosimetry only. If the USNRC believes that they want to also include secondary dosimetry as requiring NVLAP accreditation, that is their option. However, the petition does not require that.

3. The petitioner makes the argument that the mandatory use of NVLAP dosimetry would somehow require licensees to better evaluate dosimetry use conditions and ensure that appropriate dosimetry is employed. We disagree. Although the proper matching of a personnel dosimeter with use conditions and radiation fields is critical to proper dose assignment, the mandatory use of NVALP devices would not address this problem. Only the USNRC or Agreement State inspector is in position to evaluate whether the licensee made the correct choice.

Petitioner's Response: I agree with the following statement, "Only the USNRC or Agreement State inspector is in position to evaluate whether the licensee made the correct choice." The intent of NVLAP is to provide a standard that addresses both for proficiency testing of the dosimeter to specific categories, that the facility elects to test ion. Additionally, there is an on-site assessment by a technical expert, to evaluate the entire quality system. The technical expert addresses the dosimetry program in detail. The technical expert does not address the regulatory implications as to whether the dosimeter is tested in the most appropriate categories, leaving that to the regulatory agencies. The assessor may recommend that they test in certain categories, but that's not a significant part of the assessment. What the NVLAP process does provide for is a thorough assessment of the quality system whereby when a facility provides a dose they can demonstrate that it meets current standards and that a technical expert assessed the program.

The IDNS recommends that the petition not be approved. The result of this would be that extremity dosimeters, ring or wrist dosimeters, will continue to be worn, and,

there will never be any requirement that they be tested under any proficiency testing program, nor will there ever be any assessment by a technical expert, in the area of dosimetry and the proper processing of Dosimetry. This would also be true for a facility that elects to only wear an electronic dosimeter for dose of record. There would be no required testing or assessment of the program. While the petitioner does not question the capabilities of the IDNS inspectors, it is my opinion that when it comes to a detailed assessment of the dosimeter ands the method it is processed, and the algorithms used to derive the dose of record, the NVLAP technical expert is more capable of assessing the overall quality system, where there is ample time allotted to accomplish the assessment.

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