

	DEPARTMENT OF COMMERCE National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program	ISSUE DATE: March 25, 2011
	LAB BULLETIN	NUMBER: LB-55-2011
		LAP: Ionizing Radiation Dosimetry
SUBJECT: Category IV (mixed betas and photons) – ANSI N13.32-2008		

Category IV of ANSI N13.32-2008, *Performance Testing of Extremity Dosimeters*, is for testing in mixed fields of betas and photons. Blind testing is required in Category IV; therefore, the processor does not know to what sources the dosimeter was exposed when testing in Category IV.

Category IV is a new category and did not exist in the previous version of the standard. The category was added to accommodate test participants submitting dosimeters with the ability to interpret $H_p(0.07)$ in mixed fields or for dosimeters that are energy/exposure field-independent. It has come to the attention of NVLAP that the blind testing that is performed in Category IV of ANSI N13.32-2008 presents difficulty for processors of single-element dosimeters (e.g., finger rings).

NVLAP consulted with the proficiency testing provider and the standard writers for ANSI N13.32-2008. The standard writers have informed NVLAP that single-element dosimeters were not considered for Category IV testing, and that the need to test in Category IV may be unnecessary for single-element dosimeters. Therefore, the standards writers do not suggest accreditation of single-element dosimeters for Category IV testing.

Since dosimeters are supposed to be processed in radiation categories that most closely resemble the radiation fields to which a worker is exposed, some processors have determined the need to process single-element dosimeters against Category IV. To provide a more accurate dose, the processor needs to know the radiation sources used in Category IV for the single-element dosimeter.

For this reason, NVLAP has decided to relax the blind testing requirement in Category IV only for single-element dosimeters. If the processor has determined the need to test single-element dosimeters against Category IV, then the proficiency testing laboratory will inform the dosimeter processor of the radiation sources to which the single-element dosimeter was exposed. When submitting dosimeters, the processor shall inform the proficiency testing laboratory when a particular dosimeter is exempt from the blind testing for Category IV. Multi-element dosimeters will continue to be subject to blind testing as required for Category IV.

This bulletin has also been posted to the NVLAP website at (<http://www.nist.gov/nvlap>).

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