

A REVISED TNI STANDARD FOR ACCREDITATION OF ENVIRONMENTAL RADIOCHEMISTRY LABORATORIES

Presenting Author: Bob Shannon, QRS, LLC.

Email Address: BobShannon@boreal.org

Dave Fauth (Consultant), C. Martin Johnson, Jr. (USATA), Sreenivas Komanduri (New Jersey Dept. Environmental Protection), Nile Ludtke (Dade Moeller & Associates), Keith McCroan (US EPA), Larry Penfold (TestAmerica, Inc.), Bob Shannon (QRS, LLC), Tom Semkow (New York State Department of Health), Richard Sheibley (Sheibley Consulting LLC), Carolyn Wong (Lawrence Livermore National Laboratory).

Module 6 of Volume 1 of the *TNI Standard* contains management and technical requirements specific to environmental laboratories that test for radiological contaminants. The standard is the basis for NELAP accreditation of radiochemistry laboratories in fourteen states. It also forms the basis for the Joint Department of Defense / Department of Energy *Quality Systems Manual for Environmental Laboratories (DoD / DOE QSM)*.

Complying with the existing *TNI Standard* has been accompanied with challenges since it was first implemented over 10 years ago. The standard assumes that radiochemistry labs primarily operate in strict compliance with reference methods, such as those promulgated for drinking water compliance testing. It also tends to assume that QA/QC and method performance requirements are prescribed by these methods. It does not adequately address concepts important to radiochemical measurements, such as uncertainty and detection decisions, and method validation and method performance close to background. Laboratories and assessors/auditors are often faced with hard decisions about whether implementing a requirement could result in a decrease in data quality.

The standard has recently undergone significant revision to better accommodate the manner in which radiochemistry laboratories operate. The updated version was balloted and approved this year. The revised standard better accommodates laboratory-developed and laboratory-modified methods, and more clearly and consistently addresses concepts such as uncertainty, detection decisions, and data reporting. The talk will highlight the most important changes to the standard and discuss how they will impact environmental radiochemistry laboratories and the programs they support.