



Course Catalog Number: Tac-2  
Course Track: Accreditation  
Course Topic: Auditing  
Course Career Level: Beginner

**Monday, August 26 | 8:00 AM - 5:00 PM | 1-Day (8 Hours)**

**Course Title: Auditing, Traceability, and Auditing of Traceability to ISO/IEC 17025:2017**

**Instructors:** Kari Harper, National Voluntary Laboratory Accreditation Program (NVLAP)  
Isabelle Amen, National Research Council Canada (NRC)

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**Abstract:** This tutorial examines the principles of auditing, the concepts of metrological traceability and tools to apply auditing principles in demonstrating the chain of traceability for measurement results. Auditing concepts such as objective evidence, the internal audit process, and interpersonal skills for auditors will be presented. The auditing module will also incorporate guidance from the newly revised ISO 19011 regarding a risk-based approach to auditing. In the traceability section, emphasis will be placed on the importance of appropriate records for all aspects of the management system and their interdependency with metrological traceability and reporting of results. Using the described auditing principles, both companies with new or mature quality systems will have better success in the auditing process and control of the records necessary to demonstrate the metrological traceability of their measurement results to the International System of Units (SI). Within presentation of these topics, we will discuss the changes that were introduced in the new *ISO/IEC 17025:2017* and how the internal audit process can be used to transition to the new standard.

**Learning Objectives:**

1. Define internal audit and metrological traceability.
2. Analyze a claim of traceability of a measurement.
3. Describe how to include risk-based thinking in your auditing process.

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**Instructors Curriculum Vitae (CV):**

Kari Harper is the program manager of the Acoustical Testing Services Laboratory Accreditation Program (LAP) and one of the program managers for the Calibration LAP of the National Voluntary Laboratory Accreditation Program (NVLAP). In this capacity, she oversees the accreditations to ISO/IEC 17025 of laboratories across the U.S. and around the world. She also serves as both a lead and technical assessor, participates in standards development organizations, and gives training on accreditation-related topics. Kari has worked at NIST for 30 years. Before transferring to NVLAP, she worked as a mechanical engineer in the NIST laboratories focusing on machine tool and vibration metrology.

Isabelle Amen is the Leader, Quality System for NRC Metrology, managing the quality management system of the Canada' national metrology institute in accordance to *ISO/IEC 17025* and ISO Guide 34/17034 since 2013. She is also Technical Advisor and Quality Leader for the Calibration Laboratory Assessment Service (CLAS). Before joining NRC, Isabelle worked as a Program Manager, Laboratory Accreditation at the Standards Council of Canada and as a R&D Engineer in radio communications and telecommunications at France Telecom R&D Centre. Isabelle holds a bachelor's degree and a master's degree in Electrical Engineering. She has been a Lead Assessor to *ISO/IEC 17025* for 14 years and she is listed a peer evaluator for the Inter American Accreditation Cooperation (IAAC) and Asia Pacific Laboratory Accreditation Cooperation (APLAC) for testing and calibration.