HP Survey Instrument Calibration & Selection

This 3-day course provides practical hands-on training for personnel responsible for the calibration of portable radiation detection instrumentation including sample counters and continuous air monitors.

The course will concentrate on the applicable ANSI standards, NUREGs, and CFRs and other applicable guidance (ISO and IEC standards, IAEA Technical Reports, NCRP, and ICRP reports) and how these standards and guidance documents apply to the operation of an instrument calibration facility.

The course will cover the basic types of portable radiation detection instruments with emphasis on their operational limits and responses to interferences.

Basic count rate instruments for alpha and beta detection, ion chambers for gamma radiation detection, basic continuous air monitors, and test instruments and basic radioactive sources will be used in the hands-on training.

Course topics include - principles of radiation instrumentation calibration; development of a Quality Manual and associated documents for the calibration facility in accordance with ANSI/ISO/IEC 17025 “General Requirements for the Competence of Testing and Calibration Laboratories”; how to maintain traceability of radioactive source materials; laboratory inter-comparison programs; determination and calculation of Critical Level (LC), Decision Level (LD), and Lower Limit of Detection (LLD); and proper design of a calibration facility.

Why this course is different ....

- This is the only short course devoted entirely to the hands-on calibration of portable radiation detection instrumentation.
- This course is designed for those individuals who perform hands-on calibration of portable radiation detection instruments.
- This course includes direction on the needed interface between those who calibrate and those who use the portable instrumentation.
- Both those who calibrate and those who use the instruments will benefit from this class.
- This course incorporates the latest information from ANSI standards (N323A/B, N323D, N42.17A, B & C, etc. on the calibration of portable instrumentation.
- This course focuses on the applicable ANSI standards, NUREGs, and CFRs including those regarding QA elements.
- Newly published guidance on beta calibration techniques will be discussed and demonstrated.
- Traceability of radioactive source material and how to maintain that traceability will be discussed.
- International standards (IEC and ISO) will be compared to the ANSI standards covered in this course.