

**West Valley Site Management Program
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TITLE: Instrument Calibration for the Retained Premises

RP-RPP011.00

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SUBJECT: Instrument Calibration for the Retained Premises

RP-RPP011.00

1.0 Purpose

This document establishes the West Valley Site Management Program's (WVSMP) requirements for calibrating radiation-measuring instruments that are used for monitoring at the Western New York Nuclear Service Center in areas other than the State-Licensed Disposal Area that are under NYSERDA's Part 50 license but outside the authority of the West Valley Demonstration Project Act. These requirements will generally meet instrument manufacturers' recommendations.

2.0 Calibration

Calibration of instruments will be performed using procedures developed specifically for each instrument type. Calibration procedures will specify the frequency of calibration, calibration methods, performance testing, maintenance and record-keeping requirements.

- NYSERDA's Radiation Safety Officer (RSO) is responsible for arranging for instruments to be calibrated annually.
- Radiation survey meters will be calibrated by a licensed calibration/service facility at least annually as well as following maintenance or repair of the meter.
- Calibration sources will be traceable by documented measurements to the National Institute of Standards and Technology (NIST) sources appropriate for the isotopes and energy ranges of interest.
- A survey meter scale may be considered satisfactorily calibrated if an accuracy within plus or minus 20 percent of the calibration standard can be demonstrated.
- Calibration of survey meters using any of the following readout scales will be conducted as follows:
 - Linear scale meters — will be calibrated at no less than two points on each scale; the points will be at approximately one-third and two-thirds of full scale.
 - Multidecade logarithmic scale — will be calibrated at midpoint of each decade and no less than two points on one of the decades
 - Automatically ranging digital display device — will be calibrated at no less than one point on each decade, and at no less than two points on one of the decades; the points will be approximately one-third and two-thirds of the decade.
- The instrument calibration must meet the requirements found in ANSI N 323-1978 (Radiation Protection Instrumentation Test and Calibration) as well as the specifications and procedures described in the appropriate user manual for the instrument.
- The instrument must be calibrated with the same type survey probe(s) intended for use with the meter.
- The Certificate of Calibration, completed by the calibration facility, will be filed in Central Files for each instrument calibrated.

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- After receipt of the instrument from the calibration facility, the NYSERDA RSO will obtain a reference reading from the on-site check source and attach a label to the instrument showing the acceptable response range (+/- 20 percent of obtained reading) for performing on-site instrument checks.

3.0 Calibration Sticker

A calibration sticker will be affixed to the instrument by the calibration facility. The sticker will identify the instrument serial number, date the calibration was performed, due date of the next calibration, the company name of the calibrator, the calibrator's initials, unusual or special-use conditions (if applicable), and a graph or listing of appropriate calibration factor(s) (where necessary).

4.0 Calibration Records

Calibration records for instruments used on the Retained Premises will be filed by the RSO in the WVSMP Central Files. Typical instrument files will include calibration records with the following types of information:

- Instrument model, manufacturer and serial number
- Type of source used for calibration
- Calibration points
- The apparent exposure rate from a built-in or owner-supplied check source
- Results of calibration
- Date of calibration and next calibration due date
- Name of the person or facility performing the calibration
- Maintenance and repair records