

Activity: Process Equipment Calibration (Installed)

1.0 Purpose: This guideline provides a method to evaluate a plant's practices for the calibration controls to be applied to process radiation monitors.

2.0 Scope: This guideline has been developed for use in the review and evaluation of the following areas:

E Administrative controls have been established over the calibration of process radiation monitors sufficient to assure that calibration is performed and documented to attest to the equipment's ability to fulfill its design function.

E Procedures exist to perform calibration and are appropriate for the equipment being calibrated.

E Procedures are established to evaluate potentially adverse conditions such as out-of-calibration, damage and instrument drift.

3.0 References:

3.1 MA-302 - INPO Good Practice on Trend Analysis

3.2 TS-405 - INPO Good Practice on Instrument Setpoint Change Control Program

3.3 ANSI N13.10-1974 - Specification and Performance of Onsite Instrumentation for Continuously Monitoring Radioactivity in Effluents

4.0 Guidelines:

4.1 In preparation for and during the conduct of this surveillance:

- E Obtain and review implementing procedures, instructions and drawings governing this activity.
- E Prepare a guide or checklist using the selected items from this guideline.
- E Review past surveys, audits, surveillances and other evaluations/ assessments.
- E Ensure that checklists include, where applicable, actual observations of performance, general plant conditions, radiological work practices, housekeeping, work document controls and use, and safety practices.

NOTE: Refer to Guideline A.1, "General Quality Surveillance Guidance," for specific details on the attributes listed above.

4.2 Surveillance of Installed Process Radiation monitor calibration should establish that, if properly implemented, a program exists which governs the periodic calibration of process monitors and consists of the following elements:

- A. Identification of the equipment requiring periodic calibration
- B. Calibration intervals
- C. Identification of calibration status
- D. Method (procedure) for calibration
- E. Documentation of calibration results
- F. Evaluation of out-of-calibration or questionable calibration conditions
- G. Identification and control of setpoints and tolerance

NOTE:: Programs and controls applied may vary depending on whether or not a monitor (channel) is governed by Plant Technical Specifications.

- 4.3 Utilizing the plant procedures reviewed in Section 4.1, develop a checklist of requirements for use in the evaluation of the program.
- 4.4 Select several process radiation monitors and verify that the checklist items are being properly implemented. Included in this sample should be monitors whose calibration is governed by Plant Technical Specifications in addition to those which provide an automatic protective function.
- 4.5 Verify that Plant Technical Specification required grab samples are being obtained and analyzed in a timely manner.
- 4.6 Verify that the process radiation monitors selected are identified as requiring periodic calibration in accordance with plant procedures, and that calibrations are current.
- 4.7 Verify that calibration procedures for the sample indicate M&TE reference standards of suitable accuracy to calibrate instruments to required tolerances, and provide adequate, traceable documentation of calibration results indicating as found and as left conditions.
- 4.8 Verify that calibration procedures provide adequate direction to restore equipment to operable status.
- 4.9 For process monitors with associated setpoints, verify that setpoints and tolerances are within instrument range, meet design documents and that setpoints are controlled

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and documented in accordance with plant procedures (see reference 3.5 for example control program).

- 4.10 Verify that identified out-of-calibration conditions for any of the instruments have been reviewed and evaluated for impact on plant operations and appropriately dispositioned.

5.0 Other Guidelines for Consideration:

- 5.1 A.1, "General Quality Surveillance Guidance"