



Resolving the Regulatory Issues with Implementation of Online Monitoring Technologies to Extend the Calibration Intervals of Process Instruments in Nuclear Power Plants

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ABSTRACT:

The Nuclear Regulatory Commission (NRC) issued a safety evaluation report (SER) in the year 2000 approving the online monitoring (OLM) approach to extend the calibration intervals of pressure, level, and flow transmitters in nuclear power plants. This approval was contingent on fourteen NRC stipulations. Although many of these stipulations can be readily resolved, the nuclear industry found a few of the stipulations to be too restrictive and cost prohibitive and has therefore not taken advantage of OLM technology to reduce unnecessary calibrations.

Over the years since the SER was issued, the nuclear industry together with academia and government have advanced the OLM technology and established technical justifications for addressing many of the SER stipulations. Under this proposal, the proposing firm, Analysis and Measurement Services (AMS) Corporation, will compile, analyze, and document the state-of-the-art in OLM technology for online calibration verification for pressure, level, and flow transmitters in nuclear power plants. In doing so, AMS will work with the NRC and the nuclear industry to develop a guideline document to describe the technical basis for extending the calibration intervals of transmitters using historical data, drift analysis, probabilistic risk assessment (PRA), and OLM. This document will be useful to the industry for OLM implementation and to the NRC for review of licensee applications to extend transmitter calibration intervals.