Feedwater Flow Meter Inspections

Over time and with continual usage, your Feedwater Flow meters may not be operating at the accuracy level as originally calibrated when first installed. Various causes such as erosion, physical damage, corrosion fouling etc may have altered the Flow characteristics of the meter.

Adjustments for the measured flows may have been done by utilizing various instrument loop correction factors, and or comparing it to other devices and using the adjusted flow coefficients based on such measurements, it is extremely important to inspect the flow meter tubes and its components for any deterioration of surfaces tap sets and or physical damage. As you probably are well aware the correction factors s you maybe using may cause both either an increased or decreased flow, from that being recorded by utilizing such correction factors.

Permutit® of Siemens Water Technologies offers their services for the Feedwater Meter Inspection during your scheduled outage, when access to the Flow meter is available. This will enable you to pinpoint any deficiencies and or corrective action that may be possible.

The staff available for the inspection is highly qualified, with extensive experience in the manufacture and design of the meters. Records, drawings, data for the meters as provided is available in most cases which makes each inspection highly specific.

This inspection would involve the following.

Review of Flow Measurement Data:
(with plant personnel)

At the convenience of the plant, this would be done prior to inspection, at site and or by correspondence.

- History and trends of flow measurement, and perceived errors.
- Comparison of trend between multiple meters installed in line.
- Review installation differences between multiple meters.
- Use of tap sets, whether all the tap sets are, connected, averaged or not in use.
- Correction factors in use, and source where they are derived from.
- Develop a decision tree, for planned activities.
- Provide recommended cleaning procedure.

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Physical Inspection:

- Upstream, downstream pipe inspection
- Flow straightener – view and inspect welds, obstructions etc.
- View signs of erosion, and or deposits, and any distinct patterns of corrosion / erosion.
- Check for leaks in venturi section to tap connections.
- Check for damage to inlet profile of venturi.
- Critical view of tap holes, signs of edge deterioration, depressions or protrusion of taps into pipe wall etc.
- Presence of burrs, foreign objects etc, in and around the taps.
- Review uniformity of clearances between the venturi and pipe walls.
- Flange and gasket sealing surfaces, check for damage.

In order to do the physical visual inspection, various instrumentation should be available at hand, usually available at site, such as high powered borescope / videoscope with HD video capture, vacuum gauges, corrosion erosion profile meters etc.

Comprehensive Report

- Outlining all the observations.
- Summary and recommendations.
- Independent review of the inspection report and recommendations by an independent expert or lab.

The Advantage

As the leader in the water treatment industry, Siemens Water Technologies has the greatest depth of personnel and technological resources to overcome any challenge. We offer the wide variety specialty products for the power generating industry, including many custom components. Please contact us for additional information about your specific requirements.

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