

Comments on S&T Items 332-5 and 337-3

Seraphin Test Measure Company
A Division of Pemberton Fabricators, Inc.

Position: Seraphin is opposed to the adoption of these two items, because there is not enough technical and legal foundation to justify the use of transfer standards to test commercial measuring devices. We recommend that this item be withdrawn from the agenda.

Discussion: Weights and measures officials must be confident that their test results are accurate, repeatable and truly reflect the accuracy of the meters that they test. The Fundamental Considerations of Handbook 44 states that corrections and uncertainties for field standards must not exceed one-third of the (acceptance) tolerance of the meter for which the standard is used to test.

- Weights and measures officials must be able to prove that the results they obtain when testing commercial measuring devices are valid and legally defensible. Simply saying that a transfer standard may be used, does not make the use of transfer standards legally acceptable.
- Any field standard, for which the corrections and uncertainty meet the one-third requirement, may be used to test meters used in commercial measurement. However, data must be provided that prove that the proposed field standard (also called a transfer standard) meets the one-third requirement.
- Before a transfer standard may be used as a field standard, the manufacturer must prove that the transfer standard is accurate and repeatable over the range of products, flow rates, environmental conditions, operating conditions over which meters are used. Transfer standards must also prove that they perform within the one-third requirement during the time between laboratory calibrations. No data or explanations have been provided to demonstrate that the proposed transfer standards meet the one-third accuracy requirement.
- The types of meters to be used as transfer standards are not defined or identified. **How do you know which ones are acceptable?**
- No laboratory calibration procedures are specified for the transfer standards. The laboratory calibration procedures must reflect the accuracy of the transfer standard over the range of flow rates when the transfer standard is used to test meters.
- Field standards used to test commercial measuring devices must have design and/or performance requirements described in the NIST 105-series of handbooks. Since there isn't a NIST 105 handbook for these proposed transfer standards, weights and measures officials do not have specifications or performance requirements that can be cited to defend the use of these transfer standards.
- NIST has also provided some similar comments, which are in the NCWM archives for this proposal.