

NIST U.S. National Work Group on Field Reference Meters

Charter and Operational Guidelines

General

This work group shall be known as the “NIST United States National Work Group (USNWG) on Field Reference Meters” and is established by the U.S. Department of Commerce’s National Institute of Standards and Technology (NIST), Office of Weights and Measures (OWM). Throughout this document the work group shall be referred to as the “USNWG” or “Field Reference Meters Work Group” or “FRMWG.” This document describes the structure, responsibilities, and procedures for technical work by the USNWG. NIST establishes this work group in accordance with the following authorities:

- 15 USC 272(b)(2) - to develop, maintain, and retain custody of the national standards of measurement, and provide the means and methods for making measurements consistent with those standards; and
- 15 USC 272(c)(4) - cooperate with the States in securing uniformity in weights and measures laws and methods of inspection.

The USNWG is a technical working group and not a consensus body.

Objectives

The objectives of the USNWG are to:

- investigate the feasibility of using Coriolis-type mass flow meters (indicating in mass, volume, and/or other units) as field test standards in the inspection and testing of commercial liquid/gas measuring systems, including an investigation of and comparisons with current methodologies and standards (e.g., gravimetric testing and neck-type volumetric field test standards and associated test procedures);
- promote, encourage, and participate in the establishment of a comprehensive set of standards, test procedures, and associated methodologies for the use of this type of device as a field test standard;
- develop and document the methodology and process used (including procedures, forms, and other tools) to validate a given design(s) of Coriolis-type mass flow meter for use as a field test standard to enable that methodology and process to be used to validate other designs of Coriolis-type mass flow meters as well as other metering technologies;
- facilitate measurements that establish metrological traceability to the International System of Units (SI) as specified in the current edition of the International Vocabulary of Metrology (VIM); and

- provide recommendations for consideration and use by weights and measures jurisdictions, other work groups, and others interested in this technical work and its application.

This USNWG provides a forum for the development of uniform and appropriate legal metrology standards that harmonize, where possible, with related national and international standards.

The output of this work project will not be recommendation, approval, or disapproval of the use of Coriolis mass flowmeters as field test standards to be used in field testing commercial dispensing units, but will be a series of guidelines that weights and measures jurisdictions will be able to use in making wise, informed decisions regarding their use as field test standards. Included in those guidelines will be tools for specifying and selecting a field standard reference meter and guidance for implementation of those meters in the field-testing protocols established in NIST Examination Procedure Outlines (EPOs). As specified in NIST Handbook 44, Appendix A, Fundamental Considerations, Section 3. Testing Apparatus, 3.1. Adequacy, NIST OWM may make recommendations regarding the specifications and tolerances for suitable equipment used in field tests of commercial weighing and measuring equipment. However, the authority to approve these or other field test standards rests with the Director of a weights and measures jurisdiction.

The guidance documents, methodologies, and data collection protocols generated through this work will also serve as templates for weights and measures jurisdictions and others seeking to validate other test methodologies for use in testing commercial weighing and measuring equipment.

The role of the USNWG is to coordinate all activities; start or terminate any Subgroups or Task Groups; define the purview of any Subgroup or Task Group; and approve changes to these operating procedures.

Terminology:

USNWG or FRMWG – The NIST U.S. National Work Group on Field Reference Meters (including any of its subgroups and task groups) established to investigate the feasibility of using Coriolis-type mass flow meters as field test standards in the inspection and testing of commercial liquid/gas measuring systems, including the investigation of and comparisons with current testing methodologies and standards and other associated activities.

Subgroup – A major group within the USNWG that may be established to address a specific topic(s) related to the USNWG's objectives.

Task Group – An informal group assigned by the Chairman of the USNWG or a Subgroup to collaborate on and complete a short-term task(s) and bring recommendations back to the larger USNWG or Subgroup for further discussion.

Membership

The membership of the USNWG shall consist of individuals from regulatory and other government agencies (including the NIST); the service industry; metering equipment and component manufacturers; manufacturers of field test standards; consumers; laboratories; and other industries, organizations, and businesses related to commercial metering systems. To the extent possible, membership shall be drawn from these groups and other interested parties. Individuals may represent more than one category (except during the voting process).

Each candidate must request membership in writing (email or postal mail) from the USNWG Chair or Technical Advisor. Each candidate must state their intent to either regularly participate (P-member) in or observe (O-member) the USNWG work. If applicable, USNWG members must declare a separate status (including “P” or “O”) for each Subgroup established in which the member has an interest.

- **P-Member.** A candidate may elect to serve as “P-member,” which includes the responsibility of actively participating in USNWG functions and work. A P-member may also serve as Chair of a Subgroup or Task Group.

Membership Limits. Only one “P” member is permitted on the USNWG for each entity (company, agency, organization, etc.) participating in the USNWG.

Participation. P-members have the following responsibilities.

- Attend in-person meetings, video-, audio-, web-, or teleconference meetings.
- Respond to all ballots with concurrence; opposition with comments; or abstention.

Members who fail to attend more than three consecutive USNWG project/technical meetings and/or fail to respond to more than two consecutive ballots may have their status changed to an “O-member” designation. In the event that a P-member is unable to attend a meeting or fulfill other responsibilities, it is permissible for that member to designate a proxy by notifying the USNWG Chair and/or Technical Advisor in advance.

Additionally, P-members are expected to regularly provide input and comment to documents and other issues in which member review and comment is requested and to be responsive to specific inquire from the Chairman and/or Technical Advisor.

Reinstatement. A member whose designation has changed from “P” to “O” due to nonparticipation must request a reinstatement from NIST OWM in writing. A returning member whose P-member status has been reinstated is responsible for being current on project/technical issues before the group.

Resignation. A member may resign from the USNWG or its Subgroups by notifying the Chair and Technical Advisor of his or her decision.

Voting Privileges. A P-member has voting privileges. Voting privileges and responsibilities are outlined under the section titled “Voting.”

- **O-Member.** A candidate may elect to follow the work as an observer or an “O-member,” by receiving and commenting on documents and/or attending in-person meetings, video-, audio-, web-, or teleconference, or by email or postal mail correspondence as interest and availability permits.

Membership Limits. An individual entity (company, agency, organization, etc.) may have (and is encouraged to have) multiple “O” members.

Participation. There are no expectations for regular participation by O-members; however, the Chairman and/or Technical Advisor may ask an O-member to confirm continued interest after an extended period of inactivity.

Voting Privileges. O-members do not have voting privileges.

Officers

The USNWG and any main Subgroups shall have a Chair and Technical Advisor, which will be a member of NIST OWM staff or an individual appointed by NIST OWM. While the Chair and Technical Advisor lead the work and help ensure it progresses in a direction supportive of national measurement needs, the success of the USNWG is dependent on full participation and collaboration by its members. Thus, as full participants in the work, USNWG members are expected to regularly attend meetings, provide comments on documents, and respond to and participate in other work group activities.

The Chair or Technical Advisor shall serve as the outward-facing contact to NIST or other organizations and shall represent the USNWG position in the standards development processes and related activities in the U.S. and/or in International Committees of Legal Metrology. However, NIST OWM may, at its sole discretion, designate a USNWG member to speak on behalf of the work group at a specific activity or to serve as liaison with an external group. In such cases, NIST OWM will work closely with the USNWG to ensure consistency with USNWG decisions and positions.

Chair

The Chair of the USNWG and any of its associated major Subgroups shall be a member of the NIST OWM Staff or an individual appointed by OWM. The Chair of the USNWG or Subgroup

may appoint the Chair of any assigned Task Groups or defer that decision to the members of the Task Group.

The Chair ensures work progresses according to established target dates and to an appropriate and satisfactory conclusion. The Chair acts in a national capacity giving equal attention to all proposals and suggestions by USNWG members and other stakeholders. The Chair of a Subgroup or Task Group may represent his or her organization's views by clearly indicating that the position taken is on behalf of that entity rather than in the capacity of Chair.

Vice-Chair

Should NIST OWM determine a Vice-chair is needed for the USNWG or its Subgroups or Task Groups, the Vice Chair will be appointed or nominated using the same process and criteria above for designating Chairs. The decision to create such a position will be based on factors such as the need to ensure continuity in the case of absence by the Chair.

Technical Advisor

The Technical Advisor (TA) to the USNWG and any Subgroups shall be a member of the NIST OWM Staff or an individual appointed by OWM. The Technical Advisor will act technically and administratively to coordinate and promote the development of legal metrology standards. The Technical Advisor shall prepare agendas and facilitate the work of the USNWG by ensuring the proper analysis and development of agenda items and summaries of the USNWG findings. The TA has the obligation to implement the operating procedures herein defined.

Task Groups

The Chair of the USNWG or any Subgroups may also appoint informal “Task Groups” within the USNWG or Subgroup to collaborate on and complete a short-term task(s) and bring recommendations back to the larger USNWG or Subgroup for further discussion. The work of a Task Group is generally expected to be completed within one or two meetings of the larger USNWG or Subgroup. The Chairman of the appointing group may elect to appoint a Chair to the Task Group or defer that decision to the members of the Task Group. Divergent opinions on key technical issues within the Task Group are noted and sent to the larger USNWG or Subgroup for reference and, if necessary, formal resolution.

A Task Group may be disbanded by NIST OWM upon the Task Group’s completion of assigned task(s) or when NIST OWM determines the work is no longer necessary to support the objectives of the overall USNWG.

Meetings

The USNWG Chair will call for a meeting of its members either in-person, by video-, audio-, web-, or teleconference, at any time when the meeting can be supported by NIST OWM resources and any of the following conditions are met:

- (1) A need for the meeting is identified by the Chair, the USNWG or its Subgroups or Task Groups; and/or
- (2) An issue potentially affecting the work or direction of the USNWG is identified by NIST OWM (through discussion with USNWG members or others in the legal metrology community) and the issue warrants discussion by the USNWG or its Subgroups or Task Groups.

A notice of the meeting date and venue (i.e., location, web-based, etc.) will be distributed to all USNWG members via email as soon as possible prior to the meeting.

Agendas

The Technical Advisor or an appointed alternate and the Chair will develop meeting agendas. Any USNWG member may submit an agenda item to the Chair and/or Technical Advisor.

Members are encouraged to submit well-developed agenda items in advance of the meeting. Early submission of an agenda item allows for: (1) proper analysis of the item by the Technical Advisor; (2) the USNWG membership to study and distribute the item among their stakeholders; (3) more thorough discussions at the meeting; and (4) due process of the issue(s). Each submission should be accompanied by a description of the issue and any supporting documentation. Items submitted must include sufficient background information. Members who are unable to participate in a meeting must provide a well-developed agenda item that can be evaluated on its own merit or have an alternate present the issue. In the absence of the submitter, the USNWG will need to determine why the item is relevant and what should be the outcome of the issue. Prior to the beginning of each meeting, items submitted after distribution of the meeting agenda will be considered by NIST OWM for inclusion on the agenda on a case-by-case basis depending on the national need to address that issue, their complexity, and size of the existing agenda. Priority items should be marked “urgent” and include a narrative explaining why the issue requires a priority status. Priority items are considered issues that involve a court case, pre-emption by a federal statute, conflicts with an international standard, or one that could affect health and safety. Priority items also include immediate changes needed to data collection protocols, which may be addressed via email ballot. Agreement by the USNWG members present at the meeting is required, for an item to receive priority status and be placed ahead of other items already on the agenda.

Voting

To the extent possible, USNWG or Subgroup decisions will be made by consensus of the P-members present in a meeting, with a consensus defined as general agreement (without a formal vote) among the P-members present and with balanced representation among all member types. In the event the Chair determines a consensus cannot be reached on an issue or when substantial changes are made to a meeting summary or any technical document, then the USNWG or Subgroup

may take a formal vote to assist the USNWG in identifying a direction for resolving the issue under consideration.

When a formal vote is needed on an issue, only P-members have the right to vote. The decision to accept a proposed issue or change will be based on a majority present for the vote, defined as at least 50% of P-membership agreeing. Should the results of a vote indicate a particular segment of the USNWG or Subgroup disagrees with a decision, additional steps may be taken to ensure that decisions represent the best interests of the community as a whole. For example, major segments might include regulatory organizations, manufacturers, equipment owners/operators/users, etc. Additional steps may be to structure a vote by segment or to return the item to the USNWG or Subgroup for additional work.

A quorum consisting of at least 25% of the registered P-members of the USNWG or Subgroup must be present for a vote to be conducted in a meeting. Each entity (company, agency, organization, etc.) represented on the USNWG has one vote.

In the event a quorum is not present for a vote, the Technical Advisor shall ballot the P-membership of the USNWG or Subgroup in which the issue has been raised. Occasionally, the USNWG, including all of its Subgroups, may need to address overarching issues which affect the USNWG as a whole, and in such instances the entire USNWG may be asked to vote on those issues. For such issues, a member who is listed as a “P-member” on both Subgroups is counted only once when determining the total number of registered P-members voting, and, thus, may cast only one vote.

USNWG P-members may vote during the conduct of a meeting where a quorum is present or be balloted electronically or by a postal mail ballot. A majority of the votes cast within the time frame specified in the ballot is required to approve a project/action. When casting a negative ballot, members shall include an explanation of their reason(s) (and alternative language, where appropriate). If the vote is conducted electronically or by a postal mail ballot, 25% of the P-members must vote for the result to be considered definitive.

Each P-member entity (company, agency, organization, etc.) represented on the USNWG has one vote. A P-member may appoint a proxy for themselves. A proxy shall be from the same organization as the P-member and shall be designated by the P-member for a specific USNWG meeting or event by notifying the USNWG Chair and Technical Advisor in advance. A proxy may vote on behalf of the member.

NIST OWM reserves the right to veto decisions of the USNWG or its Subgroups which are determined not to be in the best interests of the U.S. measurement system or its infrastructure. In such a case, NIST OWM may refer the decision back to the USNWG or its Subgroups for further deliberation and resolution.

Fees/Resources

Members of the USNWG are not assessed fees or required to commit resources for participation in the USNWG or its Subgroups or Task Groups. Activities contemplated by this Charter and

Operational Guidelines are subject to the availability of funds and other resources necessary to NIST.

Amendment of the Charter and Operational Guidelines

The Charter and Operational Guidelines may be amended by NIST OWM as needed to ensure the work progresses in an efficient and effective manner and to address any inconsistencies. NIST OWM will provide notification to USN WG P-members of any such changes and provide an opportunity for comment and input.

Termination

Individual members may withdraw upon written notice to the USN WG. NIST OWM may terminate the USN WG upon issuing 15 days prior written notice.