

**Quantities, Units and Letter Symbols Committee (QUSCom) Meeting Minutes  
5 January, 2023, 1:00 to 3:00 PM EST  
Web Teleconference Meeting**

**1. Call to order**

The meeting of QUSCOM was called to order at 1:00 PM EST on 5 January 2023 by the Chair, Doug Edwards.

A roll call of attendees was taken with the following individuals noted.

**2. Determination of Quorum**

Last Name	First Name	Affiliation	Role	Present
Edwards	Doug	Siemens Industries Inc.	Chair	✓
Flowers	Keith	Siemens Industries Inc.	Vice-Chair	✓
Shull	Stephen	BBC Electrical Services	Secretary	✓
Balma	Peter	Individual	Voting Member	✓
Curey	Randy	Northrup Grumman	Voting Member	✓
Benham	Elizabeth	NIST	Voting Member	✓
Hoffman	Gary	Advanced Power Technologies	Voting Member	✓
Ressel	Howard	Individual	Voting Member	✓
Webb	John	ABB, Inc.	Voting Member	✓
Groves	David	Point 8 Power	Non-Voting Member	✓
Ley	Adam	Asset Intertech	Non-Voting Member	
Sullivan	Paul	DuPont	Non-Voting Member	
Kipness	Michael	IEEE	IEEE Staff	✓

All voting members were present which constitutes a quorum for all manner of business.

**3. Approval of Agenda**

The agenda was sent out previously. Hearing no objections, Doug declared it approved by consent.

**4. Approval of July 14, 2022 Meeting Minutes**

The meeting minutes were sent out previously. There was a correction made to the last name of the one of the attendees. With this correction, the chair call for a motion for approval. Howard Ressel made the motion and it was seconded by Peter Balma. There was no comments raised during the call for discussion and the motion passed unanimously.

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**5. Call for Patents and Copyright Notice**

There were no patent issues. The copyright policy was discussed.

**6. Chair's Remarks**

The Chair stated that the transition to the new reported structure had been completed. SCC14 has been transitioned and formed as Quantities, Units and Letter Symbols Committee (QUSCom) under the Standards and Standards Innovations (S&SI) Strategic Management and Delivery Committee (SMDC) and shall be subject to oversight from the S&SI SMDC.

**7. QUSCom Standard Committee P&P**

The QUSCom Standard Committee P&P were presented to the S&SI SMDC and recommended for approval to the Standards Board by AUDCom. These P&P were approved in the IEEE SASB 12/3/2022 meeting.

The approved P&P will soon be posted on the AUDCom and QUSCom website.

**8. QUSCom Working Group P&P**

There are existing SCC14 WG P&P's. However, QUSCom WG P&P's are yet to be completed. After some discussion, it was agreed that both the individual and entity methods would be created (revising the SCC14 WG P&P). Peter Balma volunteered to assemble these and provide a drafts by mid-February to the committee for review.

**9. Officer rotation**

The term for the chair had been completed and a new chair must be selected. After some discussion, Keith Flowers was the choice of the committee and he agreed to be recommended to the S&SI SMDC chair for appointment to this position. Gary Hoffman, being the chair of the S&SI SMDC and a member of this committee, agreed to this recommendation. Keith would begin his term as Chair of this Committee in 2023. According to the new P&Ps, Keith will appoint his new vice chair and secretary in the coming weeks.

**10. QUSCom Membership review**

The Chair had done a review of the current membership and no changes were recommended. The chair did ask the members to solicit other members for this committee, pointing out that a blanket request of the society has not worked. He emphasized that a personal solicitation would be more effective.

**11. US Metric Association (USMA) Report – Howard Ressel**

USMA has been busy working towards increasing its outreach and visibility. They have increased their presence on social media and upgraded the [USMA website](#). This includes new metric related information for the newsletter which will include our meeting. One member, Linda Anderman, has been fearlessly working to further a US metric transition. She has created and submitted a report to the US Congress subcommittee on Science, Space and Technology regarding Metric System adoption. USMA works closely with National Institute of Standards and Technology (NIST).

USMA has been having a series of virtual meetings to engage its members. The next meeting is February 15<sup>th</sup> at 7 pm. The link to the meeting should be posted on the USMA website before their next meeting.

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USMA is offering a one-year free membership to QUSCOM members. If anyone is interested in joining, please email [howard.resSEL@usma.org](mailto:howard.resSEL@usma.org).

**12. Awards discussion**

After some discussion on this topic, a motion was presented to the Group by Peter Balma. The motion as stated, "Create an ad hoc group to determine the feasibility for establishing an Awards Committee for QUSCom." This was seconded by Howard Ressel. The motion carried by consent and Peter Balma was chosen to head this effort. Peter asked for volunteers from the group to which Howard Ressel, Gary Hoffman, and Steve Shull spoke up. However, the whole committee was asked to contribute if they so desired.

**13. NIST Report – Elizabeth Benham**

**International System of Units (SI) Updates (November 2022)**

- Members are encouraged to obtain the new edition of the [BIPM SI Brochure \(9th Edition, December 2022, V2.01, English\)](#) that was released just before the 2022 Christmas holiday.
- Four new SI Prefixes were approved by CIPM in November 2022: ronna, quetta, ronto, quecto. Enjoy this nice BIPM SI Prefix chart that includes all 24 SI prefixes.
- The BIPM recently made seven (7) pages of changes available to manuscript editors. Updates will be incorporated in the 2023 edition of NIST SP 811, anticipated to be published Jan/Feb 2023.
- NIST SP 330 (2019) is aligned with the first version of the BIPM SI Brochure (9th edition, 2019); editors will likely update content via errata or new edition (TBD).

**US Survey Foot Retirement**

- On January 1, 2023, the U.S. survey foot was deemed obsolete and the international foot (i.e., 1 foot = 0.3048 meter exactly) definition officially superseded the U.S. survey foot. This retirement has been planned by National Oceanic and Atmospheric Administration (NOAA) and NIST for several years to provide national uniformity in the measurement of length. The retirement of the U.S. survey foot supports the NOAA National Geodetic Survey modernization of the National Spatial Reference System, related datum updates, and supporting products and services improvements.
- For more information, visit the [U.S. Survey Foot website](#), explore the [Frequently Asked Questions](#), consult the Getting Prepared Tips (including template state legislation), and review the [Federal Register Notice](#) (October 5, 2020, 85 FR 62698). New unit conversion factors have been published in the Federal Register, online, and within [NIST Handbook \(HB\) 44 - 2022 \(Appendix C, General Tables of Units of Measurements\)](#) and will be published within upcoming editions of NIST Special Publication (SP) 811, The NIST Guide for the use of the International System of Units and NIST Handbook 133 (Appendix E, General Tables of Units of Measurement). For questions, please contact Dr. Michael Dennis ([Michael.dennis@noaa.gov](mailto:Michael.dennis@noaa.gov)).

**Digital Calibration Certificates and Accreditation Scopes**

- Optimize the digital exchange of digital calibration certificate measurement results (e.g., required ISO/IEC 17025 info such as quantities, units,

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measurement uncertainties, etc.) at every level of the SI traceability chain to improve customer data analysis and avoid human error and their consequences.

- 2022 NIST Digital Workshop
- Mark Kuster (IEEE) (Mark's NCSLI bio).
- Activities on this topic going on within National Conference of Standards Laboratories International (NCSLI) 173 Metrology Practices Committee and 141 MIII & Automation Committee. [Opportunity to recruit QUSCom committee members among metrologists. Their annual conference is in July].

**IEC 80000 Series**

- New edition published - ISO 80000-1:2022 Quantities and units — Part 1: General - <https://www.iso.org/standard/76921.html> |
- ANSI IEC TC 25 Quantities and Units – US stakeholders interested in working on this Technical Advisory Group, the NIST POC is Mike Nelson.

**2023 NIST Summer Undergraduate Research Fellowship (SURF)**

- The program designed to inspire undergraduate students to pursue careers in STEM (science, technology, engineering, and mathematics) through a unique research experience that supports the NIST mission. <https://www.nist.gov/surf>
- See 2023 Office of Weights and Measures/Metric Program SURF Project opportunities - <https://www.nist.gov/news-events/news/2022/12/catch-wave-nist-surf-career-success-announcing-2023-office-weights-and>

**NIST Standard Development Office**

- For potential contact for assistance to identify Acoustics technical experts that could work on the update of IEEE 260.4 Standard Letter Symbols and Abbreviations for Quantities used in Acoustics is Chuck Ehrlich, NIST OWM. He may also be able to help committee identify NIST and/or NCSLI subject matter experts.
- Questions submitted here are routed to the “Standards Information” helpdesk.

During the report, recommendation was made to reach out to NIST for additional members and in particular for the SI-10 Working Group. These are the specific individuals mentioned.

- ❖ Toni Litorja (on a 1 year OWM detail; interested in standards development work).
- ❖ Mike Nelson (on a 1 year OWM detail; currently involved in standards development work).
- ❖ David Newell and Eite Tiesinga (SP 330 and SP 811 editors)

Additional recommendation was to reach to IEEE Student Chapters through newsletter articles. <https://students.ieee.org/student-branches/>

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**14. Document / WG Status Reports**

**Active WG's**

Std Project Number	Project Type	Project Title	Std Expiration Date	Approval PAR Date	PAR Expiration Date	Project Status	WG Chair/ Report by:
260.1	Revision	Standard Letter Symbols for Units of Measurement (SI Units, Customary Inch-Pound Units, and Certain Other Units)	31 Dec 2004	22 Sept 2022	31 Dec 2026	The first ballot was completed with a 96% approval rate along with 128 comments. These were resolved and the new document and responses were provided to the WG for review. Once their comments are return and resolved, a second recirculation will be started.	Randy Curey
260.3	Revision	American National Standard Mathematical Signs and Symbols for Use in Physical Sciences and Technology	31 Dec 2022	23 Feb 2022	31 Dec 2026	The WG has yet to meet. This was planned because of the need to have 260.1 approved before this work would be started. However, the chair has been proactive and has the first draft of the document ready for review. Doug will work with Randy to provide a document that will allow distribution.	Randy Curey

**Inactive WG's**

Std Project Number	Project Title	Std Expiration Date	Target new PAR/WG Date	Project Status	Previous WG Chair
260.4	Standard Letter Symbols and Abbreviations for Quantities Used in Acoustics	31 Dec 2028	2024	The document will soon be ready for revision. Gary commented that this document was revised only with the help of the Acoustic Society of America. IEEE has no stake holders in this area. It was suggested that this be either turned completely over to ASA or as joint standard. This should be discussed at S&SI SMDC meeting to determine a path forward.	Gary Hoffman
270	Standard for Definitions for Selected Quantities, Units, and Related Terms, with Special Attention to the International System (SI)	31 Dec 2022	2022	This standard is currently in INACTIVE-RESERVED status. There wasn't discussion on what path forward should be taken with this.	Theodore Wildi
280	Standard Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering	31 Dec 2031	2027	No action needed at this time.	Randy Curey
945	Recommended Practice for Preferred Metric Units for use in Electrical and Electronics Science and Technology	31 Dec 2029	2025	No action needed at this time.	Doug Edwards
1541	Standard for Prefixes for Binary Multiples	31 Dec 2031	2027	No action needed at this time.	Keith Flowers
SI_10	American National Standard for Metric Practice	31 Dec 2026	2023	This document is co-sponsored by ASTM and IEEE. The society's alternate Chairmanship when the document revision is required. it is IEEE turn to do this. The new chair will seek a chair for this document.	Bruce Barrow

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**15. Next QUSCom meeting – Spring 2023**

Doodle poll will be sent out by the presiding secretary to establish a date and time for the next meeting which will be targeted for the March or April timeframe.

**16. Adjournment**

The meeting was adjourned at 2:51 PM EST.