

**National Hydrogen and Fuel Cell Codes and Standards Coordinating Committee
(NHFCCSCC)**

**Wednesday, June 14, 2023
TIME: 2:00 PM ET**

Minutes

**Natalie Alvarado
Claire Behar
Rob Early
Brian Ehrhart
Mark Fasel
Jennifer Gangi
Tobias Hanson
Kelvin Hecht
Laura Hill**

**Shinichi Hirano
Owen Hopkins
Jay Keller
Ian MacIntire
Sara Marxen
Norm Newhouse
Haboon Osmond
Stella Papasavva
Eric Prause**

**Karen Quackenbush
Mark Siira
Mike Steele
Svetlana Ulemek
Christine Watson
Juana Williams**

I. Welcome and Housekeeping Items

- a. The NHFCCSCC reviewed FCHEA's anti-trust guidelines, approved previous minutes, and approved the meeting agenda.

II. DOE/HQ Update

Christine Watson

- Thank you to everyone who attended and/or reviewed at the U.S. DOE Hydrogen Program Annual Merit Review! Dr. Sunita Satyapal's plenary presentation is posted here: [U.S. DOE Hydrogen Program Annual Merit Review \(AMR\) Plenary Remarks \(energy.gov\)](https://www.energy.gov); we will update when the rest of the AMR presentations are posted online.
- New HFTO FAQ link and FAQ draft document: [Frequently Asked Questions About Hydrogen and Fuel Cells | Department of Energy](#)
- U.S. National Clean Hydrogen Strategy and Roadmap released: [U.S. National Clean Hydrogen Strategy and Roadmap : DOE Hydrogen Program \(energy.gov\)](#)
- Selections announced for the HFTO FY22 Funding Opportunity in Support of the Hydrogen Shot and a University Research Consortium on Grid Resilience: [Selections for Funding Opportunity in Support of the Hydrogen Shot and a University Research Consortium on Grid Resilience | Department of Energy](#)
- SBIR Phase I Release II: selections have been notified
- DOT Alternative Fuel Corridors 2023 Request for Nominations due June 21, 2023: https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/
- DOT PHMSA Notice of Proposed Rulemaking on Pipeline Safety: Gas Pipeline Leak Detection and Repair, comments due July 17, 2023: [Federal Register :: Pipeline Safety: Gas Pipeline Leak Detection and Repair](#)

III. Codes & Standards Events and Fuel Cell Safety Information

Karen Quackenbush

- Calendar of events: <https://www.hydrogenandfuelcellsafety.info/safety-report-calendar>

- Any committee members with materials they would like hosted on the website can send them to Karen Quackenbush (kquackenbush@fchea.org) or Haboon Osmond (hosmond@fchea.org).

IV. Global Technical Regulations

Ian MacIntire

- GTR 13 Phrase 2 will be voted on by WP 29 at their June 2023 meeting.
- The Office of Information and Regulatory Affairs posted an updated regulatory agenda, which includes a new estimated date for the Federal Safety Standards for Hydrogen Fuel Used In Vehicles. September 2023 is the new estimation.

V. Codes and Standards Organization Updates

Institute of Electrical and Electronics Engineers

Mark Siira

- The revision process for the 2027 edition of IEEE 1547 is underway. If any members are interested in revising IEEE 1547 to allow hydrogen storage, full cell technologies, and electrolyzers to be grid connected in the process, please reach out to Karen Quackenbush via email at kquackenbush@fchea.org.
- IEEE P1547.1-2020: DER interconnection and interconnection test requirements is moving forward.
- IEEE P1547.1a is a recently approved project.
- IEEE P1547.9: IEEE Guide to using IEEE Standard 1547 for Interconnection of Energy Storage Distributed Energy Resources with Electric Power Systems, has been published.

International Electrotechnical Commission IEC TC 105

Kelvin Hecht

- No updates.

International Standards Organization ISO/TC 197

Karen Quackenbush

- WG 27 (Hydrogen fuel quality) posted a compilation of comments from their ISO/CD 14687 (Hydrogen fuel quality — Product specification).
- WG 27 (Hydrogen fuel quality), WG 28 (Hydrogen quality control), and WG 33 (Sampling for fuel quality analysis) met yesterday and will meet again tomorrow in Oslo, Norway.
- WG 24 (Gaseous hydrogen – Fuelling protocols for hydrogen-fuelled vehicles) will meet from June 27th to June 29th in Versailles, France.
 - SC1/WG1 (Methodology for Determining the Greenhouse Gas Emissions Associated with the Production, Conditioning and Transport of Hydrogen to Consumption Gate) will meet from June 26th to June 27th in Saint-Denise, France.
 - WG 5 (Gaseous hydrogen land vehicle refuelling connection devices) will meet on June 30th in Versailles, France as well.
- Also, TC 197 and SC 1 Plenary will meet in Vienna, Austria, from November 13th to November 17th.
- The United States voted overwhelmingly to keep ISO/TR 15916 as a Technical Report. The international vote is not yet available.

National Fire Protection Association NFPA 2

Chris LaFleur

- The 2023 edition of NFPA 2 is available. It is open for public input until January 4, 2024.
- NFPA 2 Pre-First Draft Meeting will be on July 18th, 2023 from 11:00 AM to 3:00 PM US Eastern time.

International Codes Council (ICC)

Mark Fasel

- The Hydrogen Fuel Gas WG will meet tomorrow, June 14th from 12:00 PM – 2:00 PM US Eastern time.
- If any committee members are interested in participating in the WG, please reach out to Mark Fasel (mfasel@iccsafe.org).

Society of Automotive Engineers (SAE)

Mike Steele

Task Force	Document	*	Title	Date	Status
Interface	J2600_201510	S	Compressed Hydrogen Surface Vehicle Fueling Connection Devices	21-Oct-15	Being revised in conjunction with ISO 17268
Interface	J2601_202005	S	Fueling Protocols for Light Duty Gaseous Hydrogen Surface Vehicles	29-May-20	Being revised
Interface	J2601/2_201409	TIR	Fueling Protocol for Gaseous Hydrogen Powered Heavy Duty Vehicles	24-Sep-14	Stabilization vote closes June 18
Interface	J2601/4	TIR	Ambient Temperature Refueling	21-Nov-16	Voting in process, ends June 8
Interface	J2601/5	TIR	MC Formula High Flow General (MCF-HF-G) <i>(title may change)</i>	1-Jul-22	Draft posted
Safety	J1766_201401	RP	Recommended Practice for Electric, Fuel Cell and Hybrid Electric Vehicle Crash Integrity Testing	10-Jan-14	Revised - Action required. Awaiting GTR 13 Phase 2
Safety	J2990/1_201606	RP	Gaseous Hydrogen and Fuel Cell Vehicle First and Second Responder Recommended Practice	3-Jun-16	Voting in process, closes June 27
Safety	J3294	TIR	Guidance for Material Selection for use in Hydrogen Systems	20-Apr-23	Project initiated
Fuel Economy	J3202	RP	Recommended Practice for Measuring and Simulating Fuel Consumption and Range of Heavy Duty Fuel Cell Hybrid Road Vehicles Fueled by Compressed Gaseous Hydrogen	25-Apr-19	Being developed. No draft posted
Fuel Economy	J2572_201410	RP	Recommended Practice for Measuring Fuel Consumption and Range of Fuel Cell and Hybrid Fuel Cell Vehicles Fuelled by Compressed Gaseous Hydrogen	16-Oct-14	Stabilization project initiated

CSA

Sara Marxen

Technical Committee Meetings	
•	CSA Hydrogen Transportation Technical Committee has a virtual meeting planned for June 22.

- CSA Group's U.S. Committee Week is planned for October 2-5 in Cleveland, Ohio. [US Committee Week Details](#)

Active Projects		
TSC	Designation/Title	Status
HGV 5	HGV 5.2, Compact hydrogen fueling systems	This project is to develop a NEW standard for Compact Hydrogen Fueling Systems (HGV 5.2). Working with the TC and TSC Chairs to disposition ballot comments. Meetings planned for TSC to discuss.
HGV 5	HGV 5.1, Residential hydrogen fuelling appliances	This project is to develop a NEW standard for Residential fueling appliances. Project was kicked off in October. Content development continues.
HGV 2	HGV 2, Compressed hydrogen gas vehicle fuel containers	This project is a revision of an existing standard. Document is expected to publish by the end of June.
HGV 4.1	HGV 4.5, Priority and sequencing equipment for hydrogen vehicle fueling	This project is to develop a standard to REINSTATE an updated edition of a Priority and Sequencing standard. Expect to ballot Technical Committee in June 2023.
HGV 4.3	HGV 4.3, Test methods for hydrogen fueling parameter evaluation	This project is a revision of an existing standard. A Task Force was put together to develop text to transition from a testing standard to a standard that can be used for certification. The TSC will proceed with this project and discuss lower boundary prior to publication.
B107	Enclosed Hydrogen Equipment	Work has begun on a new standard that will address safety requirements related to hydrogen equipment use inside an enclosure. Contact Mark Duda (mark.duda@csagroup.org) with questions or for additional information.
FC 6	Fuel cell/water electrolysis module	CSA Group is seeking volunteers to develop the first edition of the binational CSA FC 6 * C22.2 No. 62282-2-100 – Fuel Cell Technologies – Part 2-100: Fuel cell modules – Safety (IEC 62282-2-100, MOD). The new edition will supersede CSA / ANS FC 6 – Fuel cell technologies – Part 2: Fuel cell modules (IEC 62282-2:2012, MOD) and CAN / CSA C22.2 No. 62282-2 - Fuel cell technologies – Part 2: Fuel cell modules (IEC 62282-2:2012, MOD). Volunteers will be participating on the CSA Fuel Cell / Water Electrolysis Module Technical Subcommittee. This project will be adopting IEC 62282-2-100 - Fuel Cell Technologies – Part 2-100: Fuel cell modules – Safety for US and Canada. The committee will be expanding the scope of the adoption to include water electrolysis modules including cell stacks as the requirements will be similar to fuel cell modules and there is an immediate industry need for a water electrolysis module safety standard. Contact Mark

		Duda (mark.duda@csagroup.org) with questions or for additional information.
SPE-701	SPE-701 – Hydrogen fuel storage containers for aviation applications	The project is to develop a new document for requirements and recommendations for the material, design, manufacture, marking, and testing of serially produced, refillable hydrogen fuel storage containers intended only for the storage of compressed hydrogen gas or liquid hydrogen fuel for aviation applications. Contact Mark Duda (mark.duda@csagroup.org) with questions or for additional information.

Compressed Gas Association (CGA)

Rob Early

Updates from last month's report are highlighted.

Status of current and future publications:

Standard	Current edition	Status
CGA G-5, <i>Hydrogen</i>	8 th (2017)	The ANS committee has resolved all propose changes, and the update is moving through the ANSI review process. For updates on the work item progress see https://portal.cganet.com/WorkItem/Details.aspx?id=22-019
CGA G-5.3, <i>Commodity specification for hydrogen</i>	7 th (2017)	Deadline to submit proposed changes for next edition was 5/1/2023. A total of 7 PCs have been submitted. The next step is to resolve the PCs. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=22-013
CGA G-5.4, <i>Standard for hydrogen piping systems at user locations</i>	6 th (2019)	Deadline to submit proposed changes for next edition is 12/22/2024. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=24-54
CGA G-5.5, <i>Hydrogen vent systems</i>	3 rd (2014)	The 5 th edition has been published and can be found at

Standard	Current edition	Status
		https://portal.cganet.com/Publication/Details.aspx?id=G-5.5 Deadline to submit proposed changes for next edition is 03/04/2026. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=26-3 Heat radiation testing at Chart Industries in New Prague, MN date is ongoing. The goal is for the task force to review test results as soon as they are completed.
CGA G-5.6, <i>Hydrogen pipeline systems</i>	1 st (2005 – reaffirmed 2013)	Deadline to submit proposed changes for next edition is 8/1/2023. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=19-018
CGA H-3, <i>Standard for cryogenic hydrogen storage</i>	3 rd (2019)	The ANS consensus body finished resolving PCs on 28 February 2023. Members who did not attend the final meeting were given 2 weeks to vote, concluding on 17 March 2023. This publication is now in staff review prior to Council Ballot.
CGA H-4, <i>Terminology associated with hydrogen fuel technologies</i>	3 rd (2020)	Deadline to submit proposed changes for next edition is 12/1/2024. However, all the content has been added to the updated version of CGA G-5. Once CGA G-5 has been issued, CGA H-4 will be retired. For updates use the following link: https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=24-59
ANSI/CGA H-5, <i>Standard for bulk hydrogen supply systems</i>	3 rd (2020)	The deadline to submit proposed changes for the next edition is 2/26/2024. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=24-010
CGA H-10, <i>Combustion safety for steam reformer operation</i>	2 nd (2018)	Deadline to submit proposed changes for next edition is 12/1/2023. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=23-038
CGA H-11, <i>Safe start-up and shutdown practices for steam reformers</i>	2 nd (2020)	Deadline to submit proposed changes for next edition is 8/11/2025. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=25-30
CGA H-12, <i>Mechanical integrity of syngas outlet systems</i>	1 st (2016)	Deadline to submit proposed changes for next edition is 6/1/2023. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=21-016

Standard	Current edition	Status
CGA H-13, <i>Hydrogen pressure swing adsorber (PSA) mechanical integrity requirements</i>	1 st (2017)	Deadline to submit proposed changes for next edition was 11/12/2022. Publication is in staff review. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=22-027
CGA H-14, <i>HYCO plant gas leak detection and response practices</i>	1 st (2018)	Deadline to submit proposed changes for next edition is 12/8/2023. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=23-045
CGA H-15, <i>Safe catalyst handling in HYCO plants</i>	1 st (2020)	Deadline to submit proposed changes for next edition is 9/1/2025. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=25-59
CGA H-17, <i>Small scale hydrogen production and delivery</i>	New publication not released yet	Task force has created the first draft that is out for proposed changes; the deadline to submit proposed changes was 12/15/2022. Publication is in final staff review. https://portal.cganet.com/WorkItem/Details.aspx?id=18-093
CGA P-28, <i>OSHA process safety management and EPA risk management plan guidance document for bulk liquid hydrogen supply systems</i>	5 th (2022)	Deadline to submit proposed changes for next edition is 08/01/2027. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=25-49
CGA PS-31, <i>Position statement on cleanliness for proton exchange membranes hydrogen piping / components</i>	1 st (2007 – reaffirmed 2019)	Deadline to submit proposed changes for next edition is 6/12/2025. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=25-16
CGA PS-33, <i>Position statement on the use of LPG or propane tanks as compressed hydrogen storage buffers</i>	1 st (2008 – reaffirmed 2020)	Deadline to submit proposed changes for next edition is 12/10/2026. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=25-41
CGA PS-46, <i>Position statement on roofs over hydrogen storage systems</i>	1 st (2017)	Deadline to submit proposed changes for next edition is 3/6/2023. https://portal.cganet.com/Publication/Workspace/Outline.aspx?work_id=23-012
CGA P-48, <i>Position statement on clarification of existing hydrogen setback distances and</i>	1 st (2016)	Deadline to submit proposed changes for next edition was 2/12/2021. Standard has been on hold until NFPA 2:2023 has been issued. Now that NFPA 2:2023 has been issued, work will

Standard	Current edition	Status
<i>development of new hydrogen setback distances in NFPA 55</i>		restart on updates to PS-48 to point to NFPA 2 for hydrogen. The ad hoc committee will meet to resolve the changes and move the updated version along for publication. For updates see the link below: https://portal.cganet.com/WorkItem/Details.aspx?id=21-062
PS-69, <i>Liquid Hydrogen Supply Systems Separation Distances</i>	1 st (2022)	CGA has developed a position statement pointing users to the new liquid hydrogen system distances in NFPA 2:2023. The position statement covers the process of requesting a variance to use the numbers from the NFPA 2 section of the NFPA web site. PS-69 is free for downloading at https://www.cganet.com/wp-content/uploads/PS-69_1.pdf
CGA work item 21-127, <i>Transfer and unloading of hydrogen at near-consumer use points</i>	New publication not released yet	Develop a new standard to update traditional hydrogen delivery practices for industrial users to improve practices for retail applications.
CGA work item 21-128, <i>Noise from hydrogen venting and hydrogen systems operations</i>	New publication not released yet	Develop a new standard to reduce the noise from hydrogen system operations, including venting, particularly at retail applications where hydrogen system noise is greater than ambient noise. The task force held a meeting November 1 and is working on developing content for the publication.
CGA work item 22-107, <i>Hydrogen system best practices</i>	New publication not released yet	Develop a new standard to capture recommended best practices for handling hydrogen, filling containers, starting up systems, maintaining hydrogen systems, and similar topics to ensure safe practices for those new to the hydrogen space and to share best practices with those already experienced with hydrogen. The first draft is being prepared for a two-month membership review. Links to the review copy will be posted once the process starts.

Standard	Current edition	Status
CGA work item 22-116, <i>Hydrogen separation distances</i>	New publication not released yet	CGA is developing a globally harmonized standard on the methodology for developing separation distances between hydrogen systems and exposures. The standard will provide details on mitigation techniques for reducing required distances, particularly in near-consumer locations (such as vehicular fueling) where room is limited. The working group has a first outline and continues to add content. The JWG met on 5 April 2023, 4 May 2023, 18 May 2023, and 8 June 2023. Future meetings are scheduled for 7 July 2023, 30 August 2023, 29 September 2023, and 27 October 2023.
CGA work item 22-127, <i>Hydrogen education plan</i>	New publication not released yet	CGA is developing a globally harmonized standard on hydrogen emergency response and safe hydrogen handling training. The JWG met on 17 April 2023, 11 May 2023. and 8 June 2023.

Upcoming events:

CGA is working on a hydrogen seminar in November 2023 with support from CGA members and partners. More details and a call for papers will be out soon.

CGA has established a new hydrogen membership category for those interested in hydrogen activities and not the whole range of industrial gases. The new membership category has a lower fee structure. More details can be found at <https://www.cganet.com/cga-announces-formation-of-hydrogen-membership/>. Those who are interested are encouraged to review the material at the CGA web site and/or contact Rob Early at rearly@cganet.com.

CGA has launched <https://www.safehydrogenproject.org/> to grow awareness and access to standards and safety information. More details can be found at <https://www.cganet.com/compressed-gas-association-announces-landmark-hydrogen-initiative/>

American Society for Testing & Materials (ASTM)

Christina Daniels

- No updates.

American Society of Mechanical Engineers (ASME)

Ray Rahaman

- There is a second round of public review for a few omitted records that went out for B31.12, and this closes on August 1st, 2023. This ultimately moves publication out to the end of the year.
- ASME BPVC Section VIII committee determines cell stack assemblies should fall within their scope and working on a mandatory appendix for their 2027 edition.
- ASME is moving towards publishing that draft as a code case, meaning it would be available widely to any interested parties. However, there won't be an opportunity for the industry or the public to comment on the draft code case.
- The 2023 ASME PVP is being held July 16-21 at the Westin Peachtree Plaza in Atlanta, Georgia. To register, please click [here](#).

VI. Discussion Topics

Center for Hydrogen Safety

Jennifer Hamilton

- No updates.

Regulatory Matrix Review and Comment

Karen Quackenbush

- This Matrix is updated quarterly and keeps FCHEA members up-to-date in the development of codes, standards, and regulations.
- As of March 31, 2023:
<https://static1.squarespace.com/static/5668416ddc5cb4375e2a9ef8/t/644fef62e193f84980dd8d63/1682960227050/FCHEA+Regulatory+Matrix+Markup+March+31+2023.pdf>
- Please direct any updates, questions, or comments to Karen Quackenbush via email at kquackenbush@fchea.org or Haboon Osmond at hosmond@fchea.org.
- H2Tools' Hydrogen and Fuel Cell Codes and Standards [database](#).

California Station Implementation

Ben Xiong

- No updates.

California Div. of Measurement Standards/Fuel Quality / Metrology

Yuk Wong

- No updates.

Legal Metrology Standards Hydrogen Fuel Quality and Measurement

Juana Williams

U.S. Weights and Measures Standards Development Process

The final 2023 Interim Meeting Reports (National Conference on Weights and Measures (NCWM) Publication 16) on the status and points considered January 8-11, 2023 by the NCWM Committees that addressed the proposals to modify hydrogen gas commercial measurement standards (to require compliance to SAE J2601, ISO 14687, and dispenser filters) were published mid-April 2023 and made available on the NCWM website at: <https://www.ncwm.com/publication-16>. Proposals assigned a “Voting” status (i.e., L&R Agenda Item FLR 23.4 see below) will be up for adoption during the July 30 - August 5, 2023 108th NCWM Annual Meeting in Norfolk, VA. The proposals were also on the agendas for the May 8-11, 2023 Northeastern Weights and Measures Association (NEWMA) Annual Meeting in Saratoga Springs, NY and May 15-18, 2023 Central Weights and Measures Association (CWMA) Annual Meeting in Grand Rapids, MI. An abbreviated report on those hydrogen proposals is listed in the table below:

NCWM Committee	Committee Agenda Item Status, No., Title	Submitter's Stated Purpose	Proposed Modification to the NIST Handbook Code	NCWM Agenda Item Status
Specifications and Tolerances (S&T)	Developing HGM-23.1 UR.3.8. Safety Requirement	Add safety requirement for hydrogen gas measuring devices to NIST Handbook 44 Section 3.39.	Add a new user requirement paragraph UR. 3.8. to read: <u>UR.3.8 Safety Requirement –All hydrogen gas-measuring devices subject to this code shall maintain</u>	The Committee made this proposal a developing item requesting additional information on the proposed new safety requirement. NIST Handbook 44 includes legal metrology requirements and does not include safety requirements.

NCWM Committee	Committee Agenda Item Status, No., Title	Submitter's Stated Purpose	Proposed Modification to the NIST Handbook Code	NCWM Agenda Item Status
			<p><u>verification of testing demonstrating conformance with the latest version of SAE J2601 Fuel Protocols for Light Duty Gaseous Hydrogen Surface Vehicles, as determined by the latest version of ANSI/CSA HGV 4.3 "Test Methods for Hydrogen Fueling Parameter Evaluation. (Nonretroactive as of January 1, 20XX)</u></p>	<p>California has indicated SAE J2601 is more than a safety requirement because it is also a performance requirement applied to its public stations. The submitter has indicated the dispenser's fueling protocol can harm test equipment. The Submitter acknowledges that handbooks do not address safety and requested informational status and that the proposal undergo further development.</p> <p>The S&T Committee has requested more information on the metrological effects of the fueling protocol on hydrogen gas vehicle fueling dispensers.</p> <p>On review of these comments the NCWM S&T Committee assigned the proposal "Developing" status.</p>
Laws and Regulations (L&R)	<p>Developing FLR-23.3</p> <p>Section 2.20. Hydrogen Fuel</p>	Add equivalent hydrogen quality standard, ISO 14687 to NIST Handbook 130 Part IV. F. Section 2.20.	<p>Modify Section 2 Standard Specification 2.20 as follows:</p> <p>2.20. Hydrogen Fuel. – Shall meet the latest version of SAE J2719, "Hydrogen Fuel Quality for Fuel Cell Vehicles." <u>or ISO 14687 "Hydrogen fuel quality — Product specification".</u> (Added 2012) <u>(Amended 20XX)</u></p>	<p>Recommended for further development by the submitter of the proposal.</p> <p>Comments were heard recommending the fuel quality standard include the publication dates for each standard and to specifically cite the relevant part of ISO 14687 which applies for this standard. Additionally, there could be a six-month gap in the revision cycle before the two standards would be completely aligned.</p> <p>Based on these points the Committee agreed there</p>

NCWM Committee	Committee Agenda Item Status, No., Title	Submitter's Stated Purpose	Proposed Modification to the NIST Handbook Code	NCWM Agenda Item Status
				<p>remains concern about the confusion that would result from citing two fuel quality standards instead of one.</p> <p>On review of these comments the Committee assigned the proposal "Developing" status and requested the submitter determine the standard which will resolve these issues.</p>
L&R	<p>Voting FLR-23.4</p> <p>Section 4.3. Dispenser Filters</p>	<p>Add filter requirements for commercial hydrogen dispensers to NIST Handbook 130 Part IV. F. Section 4.3.</p>	<p>Modify Section 4.3.1 Engine Fuel Dispensers Filters to include a new subparagraph (c) as follows: 4.3. Dispenser Filters</p> <p><u>4.3.3 Delivery Gas of Hydrogen</u></p> <p>(a) <u>All gaseous hydrogen dispensers shall have a 5 micron or smaller nominal pore-sized filter, and</u></p> <p>(b) <u>Shall be fitted with a coalescing filter that is size appropriate to the dispensing system to protect the vehicle from liquid contamination.</u></p> <p><u>(Added 20XX)</u></p>	<p>Proposal has Voting status, recommended for adoption in July 2023. The Committee agreed to the submitter's further modification of the proposal in response to comments indicating the proposed regulation did not address critical filter specifications for the contaminant filter pore size nor specify a type and filter sized appropriately for protecting the vehicle systems from liquid contaminants. The L&R Committee also concurred with recommendations for placing the filter requirements in separate new subsections 4.3.3. Delivery of Hydrogen Gas (a) and (b). In May 2023 CWMA heard input that with coalescing type filters the flow rate is more of a factor than the pore size.</p>

The NCWM Specifications and Tolerances Committee and Laws and Regulations Committee addressing the proposals for the hydrogen codes to include a hydrogen dispenser fueling safety protocol in NIST Handbook (HB) 44 Section 3.39 and for recognizing a second hydrogen fuel quality standard and filter requirements (i.e.,

for particulates & liquids) in NIST HB 130 have requested further input on the safety and fuel quality agenda items. Current editions of NIST Handbooks are available on the NIST OWM website at:

<https://www.nist.gov/pml/owm/owm-products-and-services/publications-and-documentary-standards>.

Input on all proposals should be sent to NCWM S&T Committee Chair Jason Glass (KY) available by email at:

jason.glass@ky.gov

and L&R Committee Chair Doug Rathbun (IL) available by email at:

doug.rathbun@illinois.gov.

Comments on these proposals are encouraged and can be provided in-person or in writing or electronically to the chairperson of the Committee addressing these proposals up through the July 30 - August 5, 2023 NCWM Annual Meeting in Norfolk, VA.

If you have questions or comments regarding these handbook proposals, the NIST USNWG or NIST OWM's work on hydrogen projects in the areas of device standards, test procedures, or hydrogen fuel specifications, please contact Juana Williams by email at: juana.williams@nist.gov or by telephone at (301) 975-3989.

VII. Open Discussion & Other Issues

- a. None.

VIII. Next Meeting – Thursday, July 6th at 2:00 PM US Eastern time