

**ICC 815 Sizing Water Distribution, Drainage and
Venting Standard Consensus Committee (IS-SWDDV)**

Meeting #13 - Minutes

March 21, 2024

Chair: Gary Klein

Vice Chair: Philip Parisi

Secretariat- Ramiro Mata

The thirteenth meeting of the ICC 815 Sizing Water Distribution, Drainage and Venting Standard Consensus Committee (IS-SWDDV) was held on March 21, 2024, in virtual format. The meeting was conducted in accordance with ICC’s Consensus Procedures. https://www.iccsafe.org/wp-content/uploads/ICC-Consensus-Procedures-ANSI-approved-8_2_21-BOD-apprvd-8_27_21.pdf

1. Welcome – Chairman, Gary Klein, convened the meeting and welcomed attendees at 2:04pm EST along with Staff Secretariat, Ramiro Mata. Mata reminded attendees about the ICC Code of Ethics and the Anti-Trust Policy, both of which can be found on the ICC 815 (IS-SWDDV) webpage. Mata also announced that the meeting will be recorded for internal reference only and that recording by anyone other than ICC staff is prohibited.
2. Roll Call – Klein called the meeting to order with a roll call of ICC 815 (IS-SWDDV) committee members – Symbol indicates present, indicates absent.

Committee Members

Regulator		User		Manufacturer		Builder	
<input checked="" type="checkbox"/>	Joseph Alexander	<input type="checkbox"/>	Esber Andiroglu PhD, PE	<input checked="" type="checkbox"/>	Marcus Elmer	<input checked="" type="checkbox"/>	Dan Buuck
<input type="checkbox"/>	Richard Grace	<input checked="" type="checkbox"/>	Gary Klein	<input type="checkbox"/>	Dave Parney	<input type="checkbox"/>	Joshua Trujillo
<input checked="" type="checkbox"/>	Terry Haughn	<input checked="" type="checkbox"/>	John Lansing	<input checked="" type="checkbox"/>	Lance MacNevin PE	Consumer	
<input checked="" type="checkbox"/>	Ross Wakefield	<input checked="" type="checkbox"/>	Philip Parisi Jr. PE	<input type="checkbox"/>	Kyle Thompson PE	<input type="checkbox"/>	Tim Keane
		<input checked="" type="checkbox"/>	Tom Wise			SDO/Test Lab	
						<input type="checkbox"/>	Kathryn (Katie) Foster

ICC Staff – None

Interested Parties and Guests – Frank Schmidt, Dan Cole, Drew Rich, Natascha Milesi-Ferretti, Michael Cudahy, Jim Richardson, David Nickelson, Michael Gormley, Rich Houle, Tania Ullah, Dann Holmes, Jeremy Williams, Lavanya Muttayan, Steven Deems

3. Quorum and Membership Review - With 10 committee members in attendance, Mata announced the threshold of 9 for quorum was met.
4. Approval of Meeting #12 Minutes from February 22, 2024 – Moved by MacNevin, seconded by Haughn – Approved.
5. Agenda Review and Approval – Moved by MacNevin, seconded by Haughn – Approved.
6. New Committee Meeting Format –

- a. The committee discussed the new meeting format with the first two hours dedicated to working group meetings, followed by a full committee meeting for the final two hours. Participants tried moving to Teams breakout rooms Mata created to test the feasibility of using them.
 - b. Due to several participants serving on multiple working groups, the above format was scrapped in favor of working groups meeting independently between committee meetings and shortening full committee meetings from four hours to 2.5 hours.
 - c. Starting with the April meeting going forward, meetings will be 2pm-4:30pm Eastern (1pm-3:30pm Central).
7. Research Update – Rich provided the following update:
- a. Reported having difficulty calibrating measurement equipment resulting in delayed installation. Hoping to get at least six weeks' worth of data from the Stanford building before it is demolished.
 - b. Rich provided updates on various research projects, including the development of a guideline for monitoring equipment and locations, challenges with sensor setup, plans to submit abstracts for conferences, collaboration with a company from Brazil to collect water consumption data for geographic analysis, and efforts to predict peak demand. Additionally, they mentioned participating in a three-minute research competition and planning an experimental rig setup with assistance from Dr. David Chin.
 - c. Rich discussed collaborating with a company called Sero in Brazil to gather monthly water consumption data and analyze demographic differences in water usage across different regions. The conversation also touched upon variations in showering habits impacting water consumption patterns in different countries such as Shanghai.
 - d. The discussion delved into the focus on residential water use as opposed to overall per capita consumption and highlighted the unique perspective this approach offers compared to existing studies that primarily concentrate on industrialized nations' higher per capita usage.
 - e. A conversation ensued regarding the upcoming publication focusing on literature review for DWV (Drainage Waste Vent) systems related to previous work done by Dr. Michael Gormley. It was noted that Dr. Lynn Jackson would be involved in supply-side research while emphasizing the need for comprehensive literature review due diligence.
 - f. Lansing shared insights about empirical equations used globally for drainage sizing methods across continents like Europe.
 - g. John Lansing outlines plans to submit a paper focusing on drafting new recommendations for drainage design guides at an upcoming meeting (W 62). He details considerations such as pressure differentials at fixtures and separate gray water systems.
 - h. Speakers engage in a discussion about plumbing research conducted during past SARS outbreaks in Asia concerning drain systems' impact on disease transmission between floors due to airflow dynamics through vent piping.
 - i. Mata sought an update on drainage waste research which was described by Rich as being approached similarly to ongoing projects. They mentioned involving a master's student named Gounna Rivera while working towards publication related to wastewater and sanitary drainage codes.
8. Working Group Updates

- a. Measurement – Lansing (Chair).
 - i. The working group met on March 26, 2024.
 - ii. Completed the sensor list and letter for building owners to request data monitoring.
 - iii. Reviewed plans and instrument locations for the Standford building at the University of Miami.
 - iv. Reviewed progress for instrument installation - Rich reported five instruments had been installed but calibration difficulties were encountered. Rich hoped to get all instruments installed to get six weeks of data.
 - v. Reviewed locations to take pipe samples post demolition.
- b. Supply System –Wise (Chair) –
 - i. Met on March 13, 2024, with the initial task of defining problem statements for the different components and selecting sizing methods for them.
 - ii. Discussed developing a list of terms that will be shared with the Rosetta Stone WG, identify the components within a water service system, determine failure criteria and develop performance-based requirements.
 - iii. Reviewed components related to flow determination, friction analysis, material design considerations, equipment selection parameters, failure sensitivity along with problem statements addressing confusion between terms within their working group's overall statement for water services generally.
 - iv. Klein shared information about research papers for water supply in residential spaces written for Australia and New Zealand. They also mentioned a link to a water demand calculator based on these papers, along with available data for download. Klein expressed interest in considering this information within the water supply group.
 - v. Klein suggested adding water quality, water chemistry, and hygiene to the schedule for the working group's focus. Gary Klein agreed to include these topics in the discussion. The group also discussed non-potable water supply piping and its relation to alternate water sources. They acknowledged that these topics would be further refined during future working group sessions.
- c. Drain, Waste and Vent – Lansing (Chair)
 - i. Next meeting scheduled for March 27, 2024. Will discuss research needs and areas in plumbing codes that need revision.
 - ii. The DWV working group reviewed an extensive list of items related to design requirements based on flow, self-cleansing scouring drain velocity, diameter considerations, gradient or slope of pipes among others. John Lansing proposed reorganizing this section with bullet points for better organization which was accepted by Gary Klein.
 - iii. Discussed adjustments in European, Chinese, Russian, North American, and Australian drainage standards related to K values and fixture sizing for residential versus commercial properties. He also mentioned ongoing research work regarding adjusted K factors in Australia.
 - iv. Speakers engage in a discussion about plumbing research conducted during past SARS outbreaks in Asia concerning drain systems' impact on disease transmission between floors due to airflow dynamics through vent piping.

- v. Discussed differences in flow rates between drainage systems and water supply, emphasizing the need for accurate design models considering various scenarios such as simultaneous flushing of multiple fixtures.
- vi. Links shared in Teams chat related to drain, waste and vent discussion
 - 1. <https://www.taylorfrancis.com/books/mono/10.4324/9780203879757/transient-airflow-building-drainage-systems-john-swaffield>
 - 2. <https://www.waterdemand.com.au>
- d. Rosetta Stone – MacNevin (Chair) –
 - i. The working group met on March 11th and 19th, 2024.
 - ii. Discussed table formatting and the potential need for database to manage the large amount of data. Objective is to complete initial draft by summer of 2024.
 - iii. Highlighted plans to develop a searchable database that allows users to cross-compare dimensional information across different piping materials. This would involve creating an interface that enables easy access to relevant data for calculations related to pipe sizing.
 - iv. Discussed identifying colleagues from South America, Asia, Middle East, Africa and Europe to provide information from their respective regions.
 - v. Discussed the creation of sub-tables for dimensions and volumes, specifically focusing on PEX tubing used in North America for hot and cold-water plumbing. He detailed the various parameters covered by the standards, such as outer diameter, wall thickness, inner diameter, weight of tubing with water, and volume. Additionally, he mentioned plans to populate cells with additional information from product standards to build more dimensional tables.
- 9. Project Planning –
 - a. Standard Outline
 - i. Revised section 5 to add TMVs (Thermostatic Mixing Valves), alternate water sources, water quality, water chemistry and hygiene in the notes.
 - ii. Revised section 6 to add gradient and slope to drain and waste piping.
 - iii. Revised section 7 to add certification, validation and commissioning.
 - b. Ramiro reminded working group chairs to submit work plans for the April committee meeting.
- 10. New Business –
 - a. Specbuilder Presentation – Mata informed the group that ICC will be using the ASTM Specbuilder system for balloting and potentially for file sharing. Rick Lake from Specbuilder will be introducing the system at the April meeting
- 11. New Action Items
 - a. Revise committee meeting time - Mata
 - b. Add Dann Holmes to Supply WG – Mata
 - c. Resend work plant template with WG Chairs - Mata
 - d. Presentation on Public Health and Safety Concerns in Building Piping Systems – Holmes
 - e. Drain Fittings Presentation from Plastic Pipe and Fittings Association (PPFA) – Wraight
 - f. Revise Supply WG name to Water Service WG per Wise request - Mata
 - g. Develop Working Group Work Plans – Working Group Chairs
 - h. Utility Data Requests
 - i. City of Austin data request – Smith



- ii. Guardian Water - Richardson
 - iii. Call Dave Parney to remind him to send a copy of Cast Iron Presentation - Mata
12. Next Meeting – April 18, 2024, at 1pm-3:30pm Central (2pm-4:30pm Eastern)
 13. Meeting adjourned at 4:13pm Central (5:13pm Eastern).