Meeting Minutes: 2024 UPC ad hoc Rulemaking Committee of the Plumbing Board

Date: April 2, 2025
Time: 9:00 a.m.
Minutes by: Lyndy Logan
Location: DLI, 443 Lafayette Rd. No., St. Paul, MN 55155

Committee Members

1. Karl Abrahamson (Committee Secretary)
2. Richard Becker (Chair)
3. Justin Parizek
4. Mike Westemeier (DLI CO's Designee)

Committee Members Absent

None

DLI Staff & Visitors

Adam Case (Board Counsel, DLI)
Ken McGurran (backup Board Counsel, DLI)
Lyndy Logan (DLI)
Brad Jensen (DLI) – WebEx
Tom Eisert (DLI) – WebEx
Steve Neubel (DLI)

DLI Staff & Visitors continued…

Anita Anderson (Dept. of Health) – WebEx
Lew Anderson (City of Mpls) – WebEx
Jason Bethke (City of Blaine) – WebEx
Adam Breeggemann (City of Burnsville) – WebEx
Dan Engsberg (Distributor Sales)
Nick Erickson (Housing First)
Lucas Hoffman (Dept. of Health) – WebEx
Douglas Johnson (Keenworks) – WebEx
Stephanie Menning (MUCA) – WebEx
David Nickelson (Uponor) – WebEx
Bradley Peters (City of Rochester) – WebEx
Jim Peterson (MN PHCC)
David Radziej (MN PHCC)
Nancy Rice (Dept of Health) – WebEx
Adam Swan (U of M) – WebEx
Chad Whiting (U of M) – WebEx

1. Call to Order

A. Committee Chair Becker called the meeting to order at 9:05 a.m. Committee Secretary Abrahamson took a roll call, and a quorum was declared with 4 of 4 Committee members present in person.

B. Announcements/Introductions

- Everyone present in person and remotely can hear all discussions.
- All votes will be taken by roll call if any member is attending remotely.
- All handouts and WebEx instructions are posted on the Committee's website.

2. Approval of meeting agenda

A motion was made by Westemeier, seconded by Abrahamson, to approve the agenda as presented. The vote was unanimous with 4 votes in favor; the motion carried.

3. Approval of previous meeting minutes

A motion was made by Westemeier, seconded by Parizek, to approve the March 5, 2025, minutes as presented. The vote was unanimous with 4 votes in favor; the motion carried.

4. Regular Business

No expense reports.

5. Special Business

Review Chapters 15 and 16, and any related items. If time permits, the Committee will schedule PB0190, PB0191, and PB0194, any new RFAs, and tabled items. The Committee may also consider discussing potential rulemaking recommendations for the Plumbing Board.

Chapter 15, Alternate Water Sources for Nonpotable Applications

- Abrahamson asked Adam Case, the Board/Committee's legal counsel, if the Committee decides to move forward with the review of Chapter 15, he believes the discussion would need input from the MN Department of Health and/or the MN Pollution Control Agency. If they proceed and work through the remaining parts of the book, including all the RFAs, would it be possible to bring everything except Chapter 15 to the board for review so the board can start vetting proposed changes while the Committee continues addressing Chapter 15?
- Case said he would need to look into this; however, the Board drafts the rules. If this meeting raises unresolved questions about what the committee wants to recommend, these could potentially be addressed at the board meeting with relevant stakeholders when the time comes. I'll look into it, but I don't have an answer right now.
- Abrahamson said the Committee could follow the precedent set by the other two boards and simply recommend deleting Chapter 15, or they could take the time to give it the attention that the industry or the state might expect, thoroughly reviewing it instead.
- Case said if the Committee conducts an in-depth review and formulates its thoughts, even if it results in a neutral recommendation, the board can use that as a basis during formal rulemaking. At those meetings, relevant stakeholders such as the health department and MPCA could address the Board.
- Chair Becker added that any subject matter experts in equipment and systems could provide their insights as well. Given that we don't have prior experience with this type of equipment, unlike other matters we've handled, their input would be valuable.
- Case said that reviewing Chapter 15 today could help identify important questions and determine who would be best positioned to address them.
- Westemeier said gray water systems are partially regulated by the MPCA, which has rules that overlap with ours. It will be important to navigate these duplications carefully to avoid conflicts, particularly concerning the tank and other components. At the same time, we must ensure that our rules are comprehensive and that they're not missing any critical elements. Managing duplication and preventing conflicts will be key in this process.
- Douglas B. Johnson, PhD, addressed the Committee. He is a graduate of the University of Minnesota and the University of Wisconsin Institute for Environmental Studies. He is an experienced home builder and licensed welling contractor in Wisconsin and Illinois, with potential licensure in Minnesota, depending on Chapter 15's status in the Minnesota Plumbing Code. He is present to advocate for reinserting Chapter 15 into the Minnesota Plumbing Code. This is crucial for enabling gray water recycling technologies like Hydroloop, a certified NSF 350R device approved for residential use. Hydroloop has been shown to reduce household water consumption by 35-40%, benefitting water conservation efforts and reducing groundwater withdrawal and wastewater treatment demands. For example, when a homeowner in Wisconsin expressed interest in gray water recycling, he researched viable systems and identified Hydroloop as the best fit for their custom slab-on-grade home. The device is aesthetically appealing, easy to integrate into a residence, and supported by robust app-based monitoring. After modifying the system to meet Wisconsin plumbing code requirements, it is now operational and performing well, demonstrating the practical value of such technology. Hydroloop installations require trained plumbers and a 21-day commissioning period after setup. Excess shower water is bypassed to the septic, and the system supports dual tanks for treating and processing water. Additionally, in Florida, graywater recycling is already a code requirement for multifamily buildings. He urged the Committee to consider reinstating Chapter 15 to enable broader adoption of water-saving technologies like Hydroloop in Minnesota. He said he could provide technical literature or demonstrate the unit if needed. This technology aligns with

sustainable practices and offers significant benefits to both homeowners and municipalities. He looks forward to the Committee's feedback and potential updates.

- Abramson asked about the costs associated, and Johnson said for a standard four-bedroom, three-bath house, the cost depends on the unit. The H300 unit is priced at approximately $7,000 retail. Meanwhile, the H600 unit, designed to accommodate four to six family members, ranges between $8,000 and $8,500. These prices include markup and other associated costs. Currently, they represent the company in the Upper Midwest, primarily focusing on Minnesota, Wisconsin, and Illinois, with plans to potentially expand into Michigan. While they are authorized to sell these units across the country, their efforts are concentrated in these regions. As a water quality enthusiast, my interest lies in promoting water conservation, ensuring high water quality, and managing appropriate discharges. He is hopeful that their work will benefit the state significantly.
- Johnson noted the prices are for the cost of the unit to the homeowner. To make the home recycle-ready, there's very, very little additional cost except for in the case of a home with a slab on grade, where they had to install a sump. Otherwise, you're still plumbing shower water somewhere in one direction or another, and you're still providing a supply line to the toilet. There are not two supply lines to the toilets or anything like that. There's no duplicitous plumbing. There's just the notion of making it recycle-ready. The Hydroloop device is designed for efficient water reuse, suitable for irrigation, toilet flushing, and laundry, meeting NSF 350 criteria, though not recommended for consumption. It aims to reduce water usage in environments like laundromats and can be engineered to fit between rows of laundry machines for existing setups. The device strictly avoids handling blackwater, with discharge directed to septic tanks or municipal systems. Connections to utility sinks, kitchens, dishwashers, or areas involving fats, oils, or greases are prohibited to prevent fouling. This ensures its functionality and compliance with recycle-ready plumbing standards.

Chapter 15, Alternate Water Sources for Nonpotable Applications

- **The Committee tabled Chapter 15 until Chapter 16 and all outstanding RFAs and tabled items are reviewed. Chapter 15 will need input from the MN Department of Health, the MN Pollution Control Agency, and other subject-matter experts.**

Tabled Definitions (Review with Chapter 15)

- Diverter Valve, Gray Water
- Ground Water
- Mulch
- Mulch Basin

Tabled Appendices (Review with Chapter 15)

- Appendix K, Potable Rainwater Catchment Systems (review with Chapter 16)
- Appendix S, Onsite Storm Water Treatment Systems

Chapter 16 Nonpotable Rainwater Catchment Systems

- 1601.0 General – Keep as shown in the 2024 UPC
- 1601.1 Applicability – Keep as shown in the 2024 UPC
- 1601.1.1 Irrigation **(2020)** – **Abrahamson will submit an RFA**
- 1601.1.1 Allowable Use of Alternate Water **(2024)** – Keep as shown in the 2024 UPC
- 1601.1.2 Combination Systems **(2020)** – **Abrahamson will submit an RFA**
- 1601.2 System Design – Leave as amended in the 2020 MN Plumbing Code
- 1601.3 Permit – Leave as amended in the 2020 MN Plumbing Code
- 1601.4 Component Identification – Keep as shown in the 2024 UPC
- 1601.5 Maintenance and Inspection – Keep as shown in the 2024 UPC
- Table 1601.5 Minimum Alternate Water Source Testing, Inspection, and Maintenance Frequency – Leave as amended in the 2020 MN Plumbing Code

- 1601.5.1 Frequency – Keep as shown in the 2024 UPC
- 1601.5.2 Maintenance Log – Keep as shown in the 2024 UPC with the following revision: A maintenance log for rainwater catchment systems is required to have a permit in accordance with MN Rules Chapter 1300~~Section 1601.3~~ and shall be maintained by the property owner and be available for inspection.
- 1601.5.3 Maintenance Responsibility – Keep as shown in the 2024 UPC
- 1601.6 Operation and Maintenance Manual – Keep as shown in the 2024 UPC with the following revision: An operation and maintenance manual for rainwater catchment systems required to have a permit in accordance with MN Rules Chapter 1300~~Section 1601.3~~, shall be supplied to the building owner by the system designer.
- 1601.7 Minimum Water Quality Requirements – Keep as shown in the 2024 UPC with the deletion of Exceptions 1 and 2
- 1601.8 Material Compatibility – Keep as shown in the 2024 UPC
- 1601.9 System Controls – Keep as shown in the 2024 UPC
- 1601.10 Separation Requirements – Keep as shown in the 2024 UPC
- 1601.11 Abandonment – Leave as amended in the 2020 MN Plumbing Code
- 1601.11.1 General – Leave as amended in the 2020 MN Plumbing Code
- 1601.11.2 Underground Tank – Leave as amended in the 2020 MN Plumbing Code
- 1601.12 Sizing – Keep as shown in the 2024 UPC

- 1602.0 Nonpotable Rainwater Catchment Systems **–** Keep as shown in the 2024 UPC
- 1602.1 General – **Abrahamson will submit an RFA**
- 1602.2 Plumbing Plan Submission – **Abrahamson will submit an RFA**
- 1602.3 System Changes – Keep as shown in the 2024 UPC
- 1602.4 Connections to Potable or Reclaimed (Recycled) Water Systems – Leave as amended in the 2020 MN Plumbing Code
- 1602.5 Initial Cross-Connection Test – Leave as amended in the 2020 MN Plumbing Code
- 1602.6 Sizing – Keep as shown in the 2024 UPC
- 1602.7 Rainwater Catchment System Materials – Keep as shown in the 2024 UPC
- 1602.7.1 Water Supply and Distribution Materials – Leave as amended in the 2020 MN Plumbing Code
- 1602.7.2 Rainwater Catchment System Drainage – Leave as amended in the 2020 MN Plumbing Code
- 1602.7.3 Storage Tanks – Leave as amended in the 2020 MN Plumbing Code (renumbering required)
- 1602.7.4 Collections Surfaces – Keep as shown in the 2024 UPC
- 1602.8 Rainwater Catchment System Color and Marking Information – Keep as shown in the 2024 UPC
- 1602.9 Deactivation and Drainage for Cross-Connection Test – Keep as shown in the 2024 UPC

- 1603.0 Design and Installation – Keep as shown in the 2024 UPC
- 1603.1 Rainwater Catchment Systems – Keep as shown in the 2024 UPC
- 1603.2 Outside Hose Bibbs – Keep as shown in the 2024 UPC
- 1603.3 Rainwater Catchment Collection Surfaces – Leave as amended in the 2020 MN Plumbing Code (Use 1602.9.3)
- 1603.3.1 Other Surfaces – **Tabled, review with Chapter 15**
- 1603.3.2 Prohibited Discharges – Keep as shown in the 2024 UPC with the following revision: Overflows and bleed-off pipes from roof-mounted equipment, ~~**and**~~ **appliances, condensate, and other waste** disposal shall not discharge onto roof surfaces that are intended to collect rainwater without prior approval from the Authority Having Jurisdiction.

- 1603.4 Minimum Water Quality – Leave as amended in the 2020 MN Plumbing Code – **Tabled until input is received from the MN Dept. of Health**
- Table 1603.4 Minimum Water Quality – **Tabled until input is received from the MN Dept. of Health**
- 1603.5 Rainwater Storage Tanks – Keep as shown in the 2024 UPC
- 1603.6 Location – Keep as shown in the 2024 UPC
- 1603.7 Above Grade – Keep as shown in the 2024 UPC
- 1603.8 Below Grade – Keep as shown in the 2024 UPC
- 1603.9 Drainage and Overflow – Keep as shown in the 2024 UPC
- 1603.9.1 Overflow Outlet Size – Keep as shown in the 2024 UPC
- 1603.10 Opening and Access Protection – Keep as shown in the 2024 UPC with the following revision: Rainwater tank openings shall be protected to prevent the entrance of insects, birds, or rodents into the tank and piping system. Screen installed on vent pipes, inlets, and overflow pipes shall be corrosion-resistant and have an aperture of not greater than 1⁄16 inch (1.6 mm) and shall be close-fitting. Rainwater tank access openings exceeding 12 inches (305 mm) in diameter shall be secured to prevent tampering and unintended entry by either a lockable device or other approved method.
- 1603.11 Marking – Keep as shown in the 2024 UPC
- 1603.12 Storage Tank Venting – Leave as amended in the 2020 MN Plumbing Code with the following revision: A vent shall be installed on each tank. The vent shall extend from the top of the tank and terminate a minimum of 12 inches above grade, shall be a minimum of 11⁄2 inches in diameter, shall be turned downward **and screened in accordance with 1603.10.**
- 1603.13 Pumps – Keep as shown in the 2024 UPC
- 1603.14 Roof Drains – Leave as amended in the 2020 MN Plumbing Code (renumbering required)
- 1603.15 Water Quality Devices and Equipment – **Tabled until input is received from the MN Dept. of Health**
- 1603.16 Freeze Protection – Keep as shown in the 2024 UPC
- 1603.17 Debris Removal – Keep as shown in the 2024 UPC
- 1603.18 Required Filters – **Tabled until a later date**
- 1603.19 Roof Gutters – Leave as amended in the 2020 MN Plumbing Code
- 1603.20 Rainwater Diversion Valves – Keep as shown in the 2024 UPC

- 1604.0 Signs – Keep as shown in the 2024 UPC
- 1604.1 General – Keep as shown in the 2024 UPC
- 1604.2 Commercial, Industrial, and Institutional Restroom Signs – Keep as shown in the 2024 UPC
- 1604.3 Equipment Room Signs – Keep as shown in the 2024 UPC

- 1605.0 Inspection and Testing – Keep as shown in the 2024 UPC
- 1605.1 General – Keep as shown in the 2024 UPC
- 1605.2 Supply System Inspection and Test – Keep as shown in the 2024 UPC
- 1605.3 Annual Cross-Connection Inspection and Testing – Leave as amended in the 2020 MN Plumbing Code
- 1605.3.1 Visual System Inspection – Leave as amended in the 2020 MN Plumbing Code
- 1605.3.2 Cross-Connection Test – Leave as amended in the 2020 MN Plumbing Code
- 1605.3.3 Discovery of Cross-Connection – Keep as shown in the 2024 UPC
- 1605.3.4 Annual Inspection – Leave as amended in the 2020 MN Plumbing Code

The following items are still pending and will be revisited at an unspecified future date.

Chapter 17

- Table 1701.1 Referenced Standards – recommend keeping as shown in the 2024 UPC, with the following exceptions:
  ARCSA

- ARCSA/ASPE/ANSI 63-2020 – **Recommended tabling until a later date**

ASME

- ASME A112.4.4-2017 Plastic Push-Fit Drain, Waste, and Vent (DWV) Fittings Table 701.2 – **Recommended tabling until a later date**

ARCSA

- ARCSA/ASPE/ANSI 63-2020 – **Recommended tabling until a later date**

IAPMO

- IAPMO IGC 324-2019: **Recommended tabling until a later date**
- IAPMO IGC 325-2016: **Recommended tabling until a later date**
- IAPMO PS 59-2016ae2: **Recommended tabling until a later date**
- IAPMO/ANSI Z1002-2020: **Recommended tabling until a later date**

NSF

- NSF/ANSI 350-2020: **Recommended tabling until a later date**

UL

- UL 723-2018: **Recommended tabling until a later date**

1701.2

- Table 1701.2 Standards, Publications, Practices, and Guides: **Tabled, Revisit 301.2.2 at a future meeting; need to schedule**

ARCSA

- ARCSA/ASPE 78-2015: **Recommended tabling until a later date**

ASPE

- ARCSA/ASPE 78-2015 Stormwater Harvesting System Design for Direct End-Use Applications Miscellaneous: **Recommended tabling until a later date**
- WQA/ASPE/ANSI S-803-2017: **Recommended tabling until a later date**

EPA

- EPA/600/R-12/618-2012: **Recommended tabling until a later date**

IAPMO

- IAPMO PS 86-2019: **Recommended tabling until a later date**

WQA

- WQA/ASPE/ANSI S-803-2017: **Recommended tabling until a later date**

The Committee scheduled the tabled items below for review at the next meeting on April 29, 2025, or as noted.

Tabled Appendices:

- Appendix I, Installation Standards
  - 2022 TCNA Handbook for ceramic, glass, and stone tile installation

Tabled Codes:

- 411.4 Personal Hygiene Devices **(PB0192)**: **Westemeier will submit an RFA**
- MPC 601.2.2 Hot Water Circulation **(PB0190)**: **Becker will resubmit RFA PB0190**
- 603.5.6 Protection from Lawn Sprinkler: **Westemeier will try to get a copy of IAPMO PS72 for discussion at the meeting on April 29, 2025**
- 1017.2 Interceptor Design Alternatives: **Becker to submit RFA for review – review June 4, 2025**
- 1101.12.2.2.2 Combined System: **Becker to submit RFA for review – review June 4, 2025**
- 1106 Siphonic Roof Drainage System: **Recommended tabling until June 4, 2025**

Outstanding RFAs were scheduled as follows:

- RFA PB0190 – Richard Becker, Chapter 6, Section 601.2.2 – Rec'd 2/4/2025 | **Revised 2/5/2025**
  - **April 2, 2025: Becker will submit a revised RFA for review on April 29, 2025**

- RFA PB0191 – Anita Anderson, MN Department of Health, Chapter 7, Section 724.2 – Rec'd 2/25/2025
  - **April 2, 2025: Will be reviewed on April 29, 2025**

- RFA PB0192 – Mike Westemeier, DLI, Chapter 4, 411.4, Personal Hygiene Devices/411.5 Handheld Bidet Sprayers | Chapter 6, Table 610.3 Water Supply Fixture Units and Minimum Fixture Branch
  - **April 2, 2025: Will be reviewed on April 29, 2025**
  - March 5, 2025: The Committee tabled RFA PB0192. Westemeier will discuss this with the Department of Health. Chair Becker said the language should note that this is a high-hazard device.

- RFA PB0194 – Mike Westemeier, DLI, Chapter 7, 701.2, Drainage Piping
  - **March 5, 2025: The Committee will recommend adopting RFA PB0194 with revised language.**
  - **April 2, 2025: Westemeier will submit a revised RFA for review on April 29, 2025.**

- RFA PB0195 – Justin Parizek, Chapter 10, 1017.0 Oil and Flammable Liquid Interceptors, 1017.1 Interceptors Required, 1017.2 Interceptor Design Alternatives, 1017. 3 Interceptor Details, 1017.4 Design of interceptors, 1017.5 Maintenance
  - **April 2, 2025: Parizek will submit a revised RFA for review on April 29, 2025**
  - March 5, 2025: The Committee tabled RFA PB0195 until a later date. Parizek will submit a revised RFA.

At the next meeting, review tabled items from Chapter 16, Appendix K and S, and any related items, and RFA numbers PB0190, PB0191, PB0192, PB0194, and PB0195. If time permits, the Committee will schedule any new RFAs and tabled items. The Committee may also consider discussing potential rulemaking recommendations for the Plumbing Board.

6. Announcements

- The Committee scheduled upcoming meetings. Notices will be distributed to the Plumbing Board's interested parties one week in advance. To be added to this email group, please send your request to lyndy.logan@state.mn.us
- The meetings will be held in person at DLI in the Minnesota Room unless otherwise noted. Remote attendance options include WebEx and phone. Meetings will start at 9 a.m. and may extend past noon, concluding by 3 p.m. **Please check future agendas for updates.**
  - April 29, 2025
  - June 4, 2025 (Isanti Room)
  - July 2, 2025
  - Aug. 6, 2025 (Isanti Room)
  - Sept. 3, 2025 (Washington Room)

7. Adjournment

A motion was made by Parizek, seconded by Westemeier, to adjourn the meeting at 1 p.m. The vote was unanimous, with 4 votes in favor of the motion; the motion passed.

Respectfully submitted,
Karl Abrahamson
Karl Abrahamson, Committee Secretary

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