

Weir River Water System Discoloration | June 2024



INTRODUCTIONS

- **John Oatley-Regional Vice President Southcoast Region**
- **Mike Leahy Regional Manager (based in Hingham)**
- **Darren Dearth Project Manager - Hingham**
- **Leanne Monaghan - Assistant Project Manager-Hingham**
- **Christopher Halleron - Communications Manager, Municipal Water Contract Operations | Northeast Region**

ACKNOWLEDGMENTS

- **Russell Tierney - Managing Director/Superintendent | Weir River Water System**
- **Veolia Crews Responding Throughout Event**



4-PHASE APPROACH

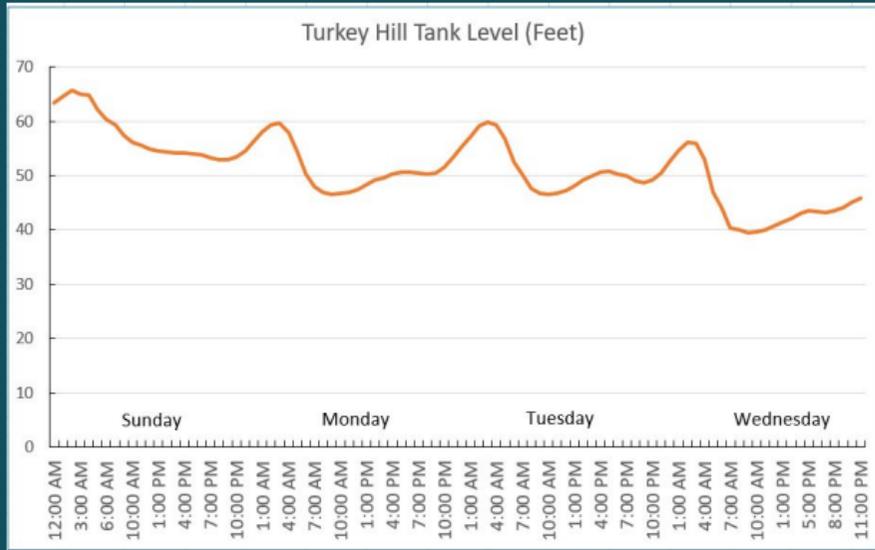
- Respond, Repair and Recover
- Investigate and Discover
- Diagnose and Learn
- Adopt and Deploy



INITIAL INDICATIONS

An incident occurred involving a hydraulic disturbance, which caused the dislodgement of sediment throughout the water distribution system. This was caused by significant usage and a drop in the Turkey Hill tank levels due to high demand. The drop was 4 feet greater during the same time period of the day before and day after.

From 3:00 a.m. to 8:00 a.m., Turkey Hill's levels dropped from 57 to 39 feet, causing the Main Service Zone pressure to drop from 56 to 36 psi. The water treatment plant (WTP) increased flows gradually from 2,500 gpm to 3,300 gpm to refill the system.





POSSIBLE CONTRIBUTING FACTORS

- Extreme heat = increased demand
- Holiday usage is generally higher
- Localized main break on Leavitt b/t Main & Short Streets in Hingham (76 y/o main)
- Additional system maintenance
- Factors currently unknown at this time





IMMEDIATE RESPONSE: WEDNESDAY, JUNE 19

- Plant management was notified 6:12am by on-shift operator of low tank levels
- Constant contact among responding personnel
- Distribution supervisor on site by 7:00 a.m.
- Project Manager and Assistant Project Manager on site by 9:00 a.m.
- Initial public notification out by 10:18 a.m. via Notify (email, voicemail, and website) to customer database; repeated at 5:26 p.m. Wednesday afternoon
- WRWS Stakeholder contact list utilized—needs updating.



DISCOLORATION MITIGATION EFFORTS

- WRWS began receiving discoloration complaints Wednesday morning
- Complaints increased in number and severity by Thursday @ 8:00 a.m., prompting the immediate move to begin venting hydrants and drawing out discolored water
- Hydrants chosen based on complaints, to avoid a system-wide discoloration scenario
- Thu 6/20 = 3 crews working from 8:00 a.m. through to 2:00 a.m. on Fri 6/21
- Fri 6/21 = 5 crews working from 8:00 a.m. until 8:00 p.m.
- Sat 6/22 = 2 crews working from 8:00 a.m. until 9:30 p.m.
- Sun 6/23 = 1 crew working 8:00 a.m until 12:00 p.m., as conditions notably improved
- Crews transitioned full response to individual customers Sunday afternoon

Flowing v. Flushing = venting hydrants surgically, rather than forcing high pressure through and spreading the issue within the distribution system

- Logistically harder to execute, but prevented even longer episode.
- All steps were taken based on data-driven analysis and operational familiarity, thereby achieving the most effective response



Posted on: June 19, 2024

Immediate Conservation Practices Required

Posted on: June 20, 2024

Water System Update Regarding Discolored Water

On June 21, 2024

Discolored Water Update and FAQs

Posted on: June 22, 2024

Weir River Water System June 22 Update

Posted on: June 23, 2024

Update on Discoloration | June 23, 2024

Posted on: June 24, 2024

Weir River Water System - Update on Discoloration | June 24, 2024

Veolia Update on Discoloration | June 25, 2024

Posted on: June 25, 2024

Update on Discoloration | June 25, 2024

While conditions have vastly improved, Veolia continues to work with the Weir River Water

System to add clear, treated water from our source tanks following the recent discoloration

Flushi incident. Since the acute surge in demand during last week's regional heat advisory, clear

water has been working its way through the affected areas, replenishing discolored water that

was flushed out by our crews working throughout the weekend.

Those flushing operations have stopped, and Veolia personnel are currently assisting

individual customers who are experiencing issues within their homes.

We are diligently monitoring the source water quality, and samples have been taken from MassDEP-approved testing locations

throughout the system. Veolia has taken all actions recommended by MassDEP and will continue their work to mitigate the

discoloration, providing updates as additional information becomes available.



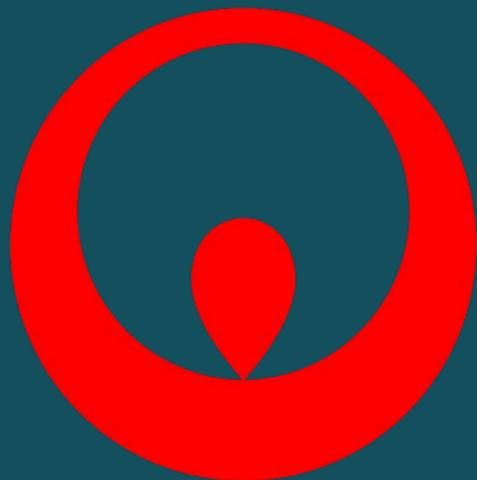
PUBLIC OUTREACH*

- WRWS Website
- Notify System (User Opt-In)
- Civic Stakeholders/OEM

*MUST IMPROVE

- Update Stakeholder contacts
- Contact local media outlets
- Collaborate with community organizations





VEOLIA NORTH AMERICA -
ONGOING SUPPORT SINCE JUNE 19

- **Local Team, working with WRWS**
- **Municipal Water - Northeast Region**
- **Technical & Performance Team**
- **Communications Department**
- **Senior Leadership Team**





DISCOLORED WATER



DOES THIS HAPPEN ELSEWHERE?

- Discolored water events are common in municipal water systems throughout the United States—particularly in systems with older infrastructure.

HOW DO WE MITIGATE THESE ISSUES?

- Systems can improve by having a robust and effective flushing program.
- Assess and implement infrastructure upgrades





CURRENT WATER STATUS

- Responding to localized complaints, primarily within individual residential systems
- Flowing discolored water proved effective
- Clear source water moving through distribution system and has been added throughout the event timeline

WATER QUALITY

- Coliform Absent before during and after event
- Iron levels within MassDEP limits
- Manganese levels in two of the ten sites tested slightly high; results were well below MassDEP levels for any health impacts
- MassDEP guidance followed throughout





IMMEDIATE ACTIONS

- Assess & Amend Emergency Response Plan
- Adjust tank monitoring alarm setpoints
- Collaborative updates on communication protocols among stakeholders
- Identify most effective outreach opportunities
- T+P developing Unidirectional Flushing Plan
- Continue to explore and implement effective infrastructure improvements



Customer Service

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Thank you.

