

# Horsham Boil Water Advisory Update

September 12, 2018

# Boil Water Advisory

## 5/30/18 - 6/2/18

- For the first time in our 30+ year history, we were required to issue an advisory to our water customers, recommending that they boil their water as a precaution prior to consuming it
- Water from Well 40 was pumped to the system without chlorine for approximately 8 hours—4 hours longer than allowed by DEP
- Numerous samples taken on consecutive days confirmed that ***there was no contamination of the public water system*** as a result of this event
- The advisory lasted two days because DEP regulations require two days of consecutive samples. Each sample requires 24 hours to incubate

# What Happened?

- The Authority had been experiencing operational difficulties with Well 40 for several weeks. These difficulties *were not* related to the quality of water being produced by the well (Well level measurement)
- Because of the desirable water quality, we continued to use Well 40 while addressing the operational issues. This required manual control of the well
- While in manual mode, the well and chlorinator were being shut down at night. On 5/30, while doing so, an operator's actions inadvertently shut down the chlorinator without shutting down the well pump
- A low chlorine alarm was generated and acknowledged by Aqua, but an operator was not dispatched

# System Safeguards

- Normally, multiple layers of operational control are in place to prevent a disinfection failure
  - Control systems and/or physical wiring synchronize the operation of the well pump with the operation of the chlorine pump (referred to as an “interlock”)
  - Control system (SCADA) shuts the well down when chlorine is low or not present
  - A phone alarm is placed to the Aqua 24/7 control center
  - An operator is dispatched

# Safeguard Enhancements

## What has HWSA done?

- Engaged outside consultant to lead a forensic analysis of the events and identify corrective actions
- Instituted new SOPs/COC requiring two (2) operators present on-site to change the status of a well
- Updated control system programming to generate redundant call-outs (HWSA & Aqua) and require multiple acknowledgements of critical alarms
- Created additional ad hoc control system activity reports
- Instructed SCADA vendor to make Operator Manual more useable
- Reviewed regulatory reporting requirements and procedures with staff
- Updated the HWSA Emergency Response Plan (ERP)
- Engaged 3<sup>rd</sup> party technical investigation of Well 40 wiring/SCADA configuration
- Placed a new interconnect with NWWA in the low zone in-service
- Working to return additional wells (#9, #3, and #1) to “ready status”

# Safeguard Enhancements

## What has Aqua done?

- Aqua's control center has added a separate log book specifically for Horsham in which
  - All alarms will be recorded, along with the action taken
  - All HWSA alarms must be responded to with documented action (recorded in custom log book)
- HWSA must be notified of **all** alarms
- Developed a joint Aqua/HWSA team to clarify roles, responsibilities to improve communications

# Public Notification System

## What has HWSA Done?

- Public notification system has been converted to new more robust high speed communication callout system (150,000 contacts per hour), which has enhanced features such as mapping tools
- Outreach to obtain customer contact information is on-going, a web form has been added to our website as well as a mailing campaign which will be issued this month
- HWSA Facebook, Twitter social media accounts have been established
- Established provisions for Authority personnel to be informed of after-hours emergencies and available to answer customer calls as necessary
- As a result of the inconvenience and disruption of the boil water advisory to our customers, the Authority is issuing a 3-day credit to all impacted customers

Thank You

Questions?



# How Our System Works

