HEATH CITY COUNCIL

Special Called Meeting

Executive Session

July 31, 2024

PUBLIC COMMENT

This is an opportunity for the public to address the Council on any matter, except public hearings included on the agenda. Comments related to public hearings will be heard when the specific hearing begins. Public comments are limited to three (3) minutes per speaker, unless the speaker requires the assistance of a translator, in which case the speaker is limited to six (6) minutes, in accordance with applicable law. To address the Council, please sign in prior to the start of the Council Meeting. Each speaker shall approach the podium and state his/her name and street address before speaking. Speakers shall address the governing body with civility that is conducive to appropriate public discussion. Speakers can address only the governing body and not individual city officials or employees. The public cannot speak from the gallery but only from the podium. The Council is not permitted to take action on or discuss any item not listed on the agenda. The Council may: (1) make a statement of fact regarding the item; (2) make a statement concerning the policy regarding the item; or (3) propose the item be placed on a future agenda. (Tex. Govt Code §551.042).

3. Discussion Regarding the Investigation of Events Leading to a Failure of the City's SCADA System that occurred on July 25, 2024. *(K. Lasher/B. Creed)*
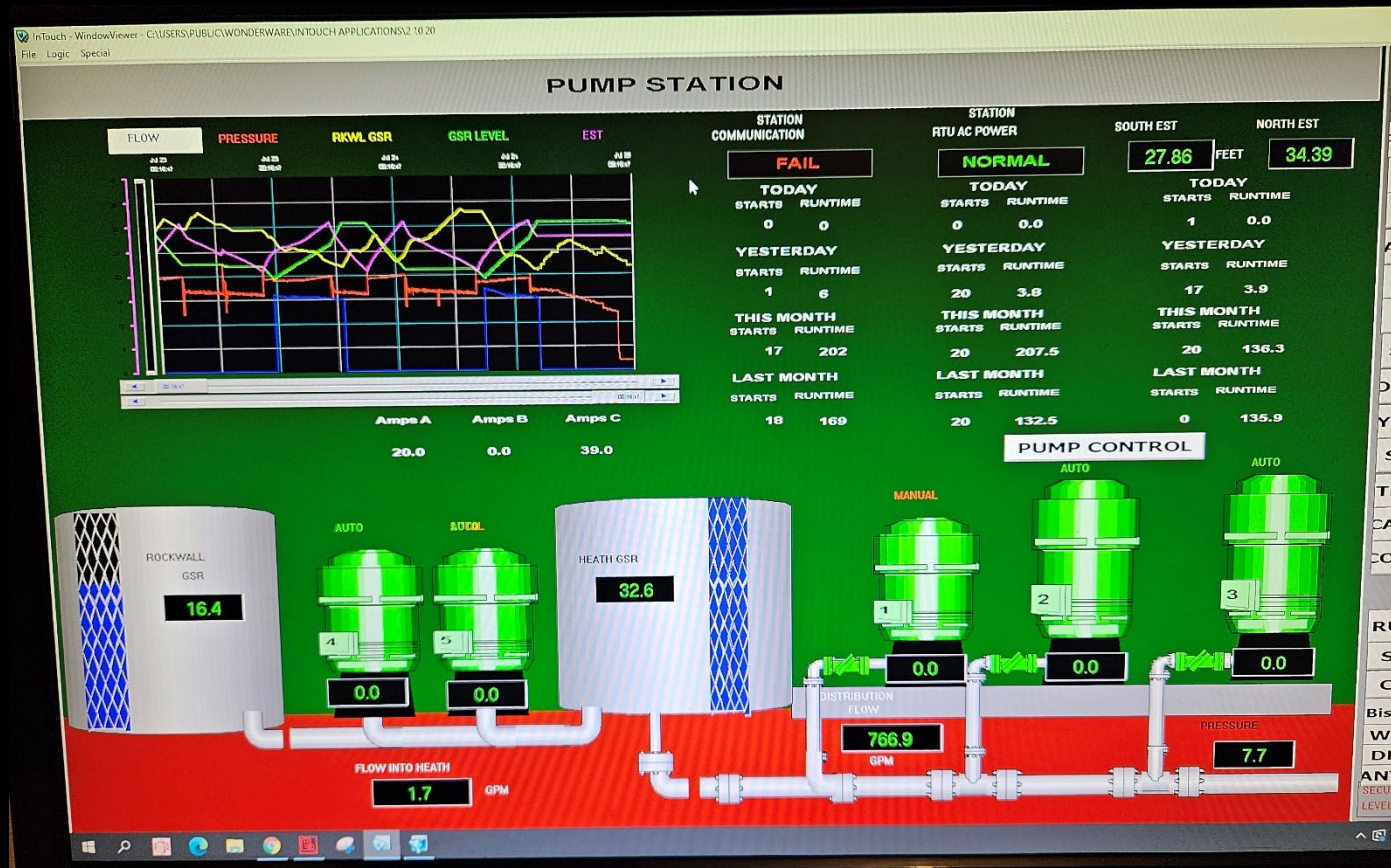
BOIL WATER NOTICE
JULY 24 - 27, 2024

TIMELINE

Wednesday, July 24ᵗʰ

Approx. 10:00 – 11:00 p.m. … SCADA checked; no issues noted

Screenshot taken
07/25/24 @ 8:15 a.m.

TIMELINE

Thursday, July 25th

7:00 a.m.	Staff noted low water pressure; no visible SCADA issue; pumps are off; towers appear to be full
7:40 a.m.	Physical inspection of South Tower; level @ bottom of bowl
7:45 a.m.	Pump #1 manually started
8:09 a.m.	PW Director declared boil water notice
8:18 a.m.	Staff forced a restart of SCADA
8:25 a.m.	SCADA communication restored; display corrected
8:30 a.m.	Physical inspection of North Tower; level below the bowl
10:00 a.m.	Pressure is restored to minimum operating levels
4:41 p.m.	North Tower and South Tower filled to capacity

TIMELINE

Friday, July 26ᵗʰ

Morning   Staff collected samples and submitted to NTMWD lab

Saturday, July 27ᵗʰ

10:53 a.m.   Staff notified samples passed. Boil Water Notice rescinded.

**DURATION from staff noting loss of pressure to BWN rescinded :
Approximately 40 hours**

SCADA FAILURE ANALYSIS

Supervisory Control and Data Acquisition (SCADA) System: **A digital control system reporting operational data and capacity information about the water system. It monitors the community's water usage, provides storage level information for all water tanks, and ensures all pump stations and associated equipment are working sufficiently to maintain supply and distribution capabilities.**

So, what happened?

- Failure stemmed from jammed communications affecting radio transceivers and buried landline components (known as "dialers") that are a part of the system.

- The age of the hardware and software is believed to be the leading cause of these failures, making the system progressively unstable.

- The buried landline cable is simply inactive and the exact cause has not yet been determined.

SCADA FAILURE ANALYSIS

- The SCADA hardware, described as the Remote Terminal Unit (RTU), is located at the South Tower.

- The RTU activates the software to send data through the communication devices to the SCADA network computer located at the Public Works Service Center.

- The **TRANSCEIVER** failing is the suspected cause of the system's failure according to our SCADA consultant after onsite inspection.
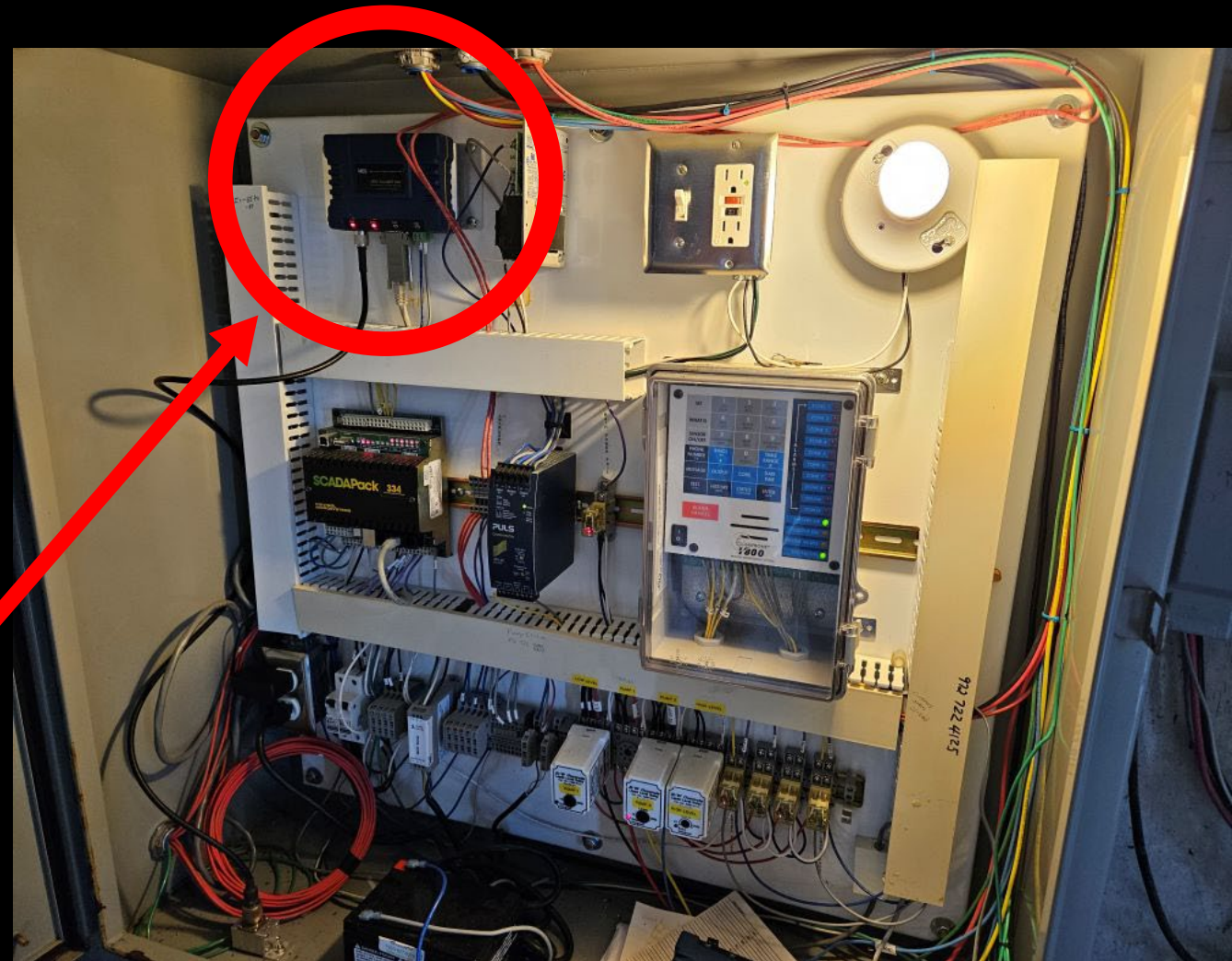
SCADA FAILURE ANALYSIS

- The **TRANSCEIVER** is prone to failure and "locking up".

- The transceiver locking up would stop the SCADA server at the PW Service Center from receiving any additional information.

- The SCADA server would simply show the last values in the towers it received before it lost communication.

SCADA FAILURE ANALYSIS

- When the staff restarted the RTU, communication with the SCADA server was restored and the InTouch software showed the correct values in the towers.

- The alarm panel on the right side of the cabinet is connected to a copper phone line for calling out. Onsite inspection today indicates the phone line is currently not active.

- Heath's system has four SCADA alarm systems: the alarm notification Win911 software is installed on the network computer, dedicated auto-dialers are installed at the RTU and at both towers, and an alarm is installed at the pump station.

- When a problem is detected, alarms to the network computer are activated, and text messages are sent to staff cell phones.

- This did not happen on July 25th because the landline cable was inactive.

SCADA FAILURE ANALYSIS

- The communications dialers at the South Tower have failed before.

- There was a failure in early 2013 due to a bad batch of RTU components, but that was quickly resolved.

- Staff have replaced landline devices 2 or 3 times. The last one was last year, which was due to a possible power surge.

- If the landline problems at the South Tower continue, then a remedy would be to change these units out with cellular devices. These are about $2,400 each, plus $299 per year for maintenance.

SCADA FAILURE ANALYSIS

- The current software version (Intouch) was released in 1998.

- The SCADA server is housed at the PW Service Center.

SCADA FAILURE ANALYSIS

- The current software cannot alert by any communication means beyond the visual Intouch interface.

- Additional software (Win 911) was purchased to "monitor" SCADA and send out texts to recipients of alarms (values outside of set parameters).

- Win911 has proven unreliable.

- In March 2023, former Public Works Director Matt Holzapfel provided an extensive report on the water system and discussed SCADA deficiencies.

- Improvements to SCADA were included in the scope of the new Public Works facility project anticipated complete in fall 2025.

- In early March 2024, staff identified these deficiencies with the current software and determined that a new system should be included in the FY25 budget.

SCADA FAILURE ANALYSIS

- Staff took the following actions to prepare for including SCADA in the FY25 budget:

    - 4/10/24 – Staff met with Protolink to evaluate SCADA options and pricing

    - 5/14/24 – Staff created a "clone" computer at PW to have a "plug-in" backup should the current computer crash. This system would need to be installed manually after an issue is discovered

    - 5/15/24 – Staff met with BLOC Design to evaluate and price SCADA replacement

The staff strongly recommends that a totally new system be installed immediately. The new system would cost approximately $50,000 for new components and an operating system, plus about $20,000 annually for yearly maintenance and upgrades. Should we not be encumbered by supply-chain delays, staff is targeting the new system to be substantially complete by mid-November of this year.

Executive Session

In accordance with Texas Government Code, Chapter 551, Subchapter D, the City Council will recess into Executive Session (closed meeting) to discuss the following:

4.a **Section 551.074:** Deliberation regarding the appointment, evaluation, reassignment, duties, discipline or dismissal of a public officer or employee, regarding: appointments and re-appointments to the Planning and Zoning Commission, HMBC/HEDC, Park Board, Board of Adjustment, Architectural Review Board, Mayor Pro Tem and Municipal Court Judges.

Reconvene into Open Session

In accordance with Texas Government Code, Chapter 551, the City Council will reconvene into Regular Session to consider action, if any, on matters discussed in Executive Session.

Items for Consideration

6.a Discussion and Action Regarding Appointments and Re-appointments to the Planning and Zoning Commission, HMBC/HEDC, Park Board. Board of Adjustment, Architectural Review Board and Mayor Pro Tem.

6.b Discussion and Action Regarding a Resolution Appointing a Municipal Court Judge and Associate Municipal Court Judge.

Adjourn.