

REPORT OF PUBLIC WATER SYSTEM COMPLIANCE INSPECTION

AT

**City of Emporia, Public Water Supply
1220 Hatcher St. Emporia, KS 66801**

Public Water Supply ID#: KS2011105

July 14, 2025 – July 15, 2025

BY

U. S. ENVIRONMENTAL PROTECTION AGENCY

Region 7

Enforcement and Compliance Assurance Division (ECAD)

INTRODUCTION

I conducted a Public Water Supply (PWS) Compliance Evaluation Inspection (CEI) at the City of Emporia, Kansas PWS on July 14, 2025 – July 15, 2025. The inspection was conducted under the authority of Section 1445 of the Safe Drinking Water Act (SDWA) and as part of the EPA's National Enforcement and Compliance Initiative (NECI). This narrative report and attachments present the results of the inspection.

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SYSTEM DESCRIPTION AND HISTORY

The City of Emporia PWS in Emporia, Kansas (PWS# KS2011105) is classified as a community water system (CWS) owned and operated by the City of Emporia, Kansas. According to Kansas Drinking Water Watch (DWW), the public water supply (PWS) serves a population of approximately 24,009 people, through approximately 9,100 service connections. According to Mr. Grant, the system serves water to seven consecutive systems, including Coffey County Rural Water Districts (RWD) 2 and 2E, City of Harford, Lyon County RWDs 1, 2, 4, and 5, and City of Olpe. The system is a surface water treatment plant system, which sources its water from the Neosho River. The system's average daily use is approximately 9 million gallons per day (MGD).

The water system operates a conventional filtration system. Ozone is used as the primary disinfectant and chloramines are used to provide a chlorine residual throughout the distribution system. The system has 5 million gallons of finished water storage capacity between the two ground storage tanks, (East and West Tanks), and the two elevated storage towers, (12th Avenue Tower and the Warren Way Tower). The system employs four certified operators at the water treatment plant, all four of which are certified at the level or class required by KDHE as Class IV certified operators. According to system personnel, the plant is operated full-time, 24 hours a day, seven days a week. According to Mr. Grant, although the system has experienced temporary, partial service interruptions to complete routine maintenance and upgrades, such as repairing water main breaks, there have been no major service interruptions in the past two years. The system experienced a turbidity issue November 5, 2024, leading to the issuance of a boil water advisory (BWA) to system customers. According to records provided by the system, repairs and system flushing addressed the turbidity issues and the BWA was lifted on November 9, 2025. KDHE conducted a sanitary survey (SNSV) of the system July 31, 2023, in which two significant deficiencies were identified. The KDHE SNSV is discussed in more detail below.

The PWS monitors ongoing operations, flow rates, storage levels, chemical feed rates, and other monitoring practices of the system using a Supervisory Control and Data Acquisition (SCADA) system.

INSPECTION PROCEDURES

State Notice of Inspection

On March 6, 2025, Cathy Tucker-Vogel from the KDHE was notified, in writing by email, of EPA's intention to inspect the City of Emporia's PWS. This notification was conducted pursuant to Section 1445(b)(2) of SDWA, 42 U.S.C. § 300j-4(b)(2).

Public Water System Notice of Inspection

On June 24, 2025, Mr. Grant, the Director of Public Works for the City of Emporia, Kansas was notified via email, of EPA's intention to conduct the CEI inspection. A follow-up conversation with Mr. Grant was held on July 1, 2025, to confirm the meeting date, time, location, and discuss the scope of the inspection. This notification was conducted pursuant to Section 1445(b)(1) of SDWA, 42 U.S.C. § 300j-4(b)(1).

Records Request

I requested that the following records be made available in advance or during the inspection for review: Risk and Resilience Assessment (RRA) and the Emergency Response Plan (ERP) required under the America's Water Infrastructure Act (AWIA), Lead and Copper Rule (LCR) sampling pool and associated sampling plan, most recent finished water storage structure inspection reports and maintenance records, Revised Total Coliform Rule (RTCR) sampling plan and records, a schematic or description of the system's water treatment process if applicable, distribution system materials information, chemical analysis data, disinfection residual logs and related information, public notices, boil water advisories, cross connection plan, valve exercise plan, and flushing program records. Most of the requested records were provided for review either before or during the inspection. The following records have not yet been received as of the issuance of this inspection report:

1. Inventory of high hazard connections;
2. Backflow device testing results/certifications;
3. Inventory of backflow prevention devices installed within the PWS;
4. Valve exercise program records or exercise logs;
5. Lead and Copper Rule sample plan for the 2022 sampling event, or 90th percentile calculation records;
6. Disinfection byproduct sampling plan or most recent sample results for one year;
7. RTCR sample results for past year;
8. Master meter routine inspection records; and
9. PWS flushing records.

Opening Conference

On July 14, 2025, Ms. Hartwig and I arrived at 1220 Hatcher Street, Emporia, Kansas, 66801 for the opening conference at approximately 9:30 am and met with Messrs. Grant, Mason, Riggs, Williams, Hinderliter, Kenyon, and Meek as well as Ms. Williams, from the City of Emporia. Most were only present for the opening conference, while Messrs. Grant, Mason, Riggs, and Williams, and Ms. Williams were present during various portions of the system tour. During the opening conference I introduced myself, presented my EPA credentials, and explained the purpose and scope of the inspection.

I explained that the purpose of the inspection was to evaluate SDWA compliance of the public water system, to assess any outstanding items identified in the KDHE sanitary surveys as part of the EPA's National Enforcement and Compliance Initiative, evaluate the system's sources and treatment components, evaluate finished water storage, and evaluate the system's compliance with Section 1433 of the AWIA.

During the inspection, 31 photographs were taken. The photographs taken during the inspection and the photograph log is included as Attachment 1 of this report. The findings, unless otherwise specified below, were noted during the inspection and were discussed with the system during the closing conference, prior to the conclusion of the inspection, and provided to the system in the Notice of Preliminary Findings (NOPF) on July 18, 2025. The NOPF provided to the system is included as Attachment 2. The system provided a NOPF response on August 5, 2025, which is included as Attachment 3. This narrative inspection report provides a summary of the observations and findings identified as a result of the compliance inspection.

FINDINGS AND OBSERVATIONS

Follow-Up to KDHE Sanitary Surveys

Prior to the on-site inspection, the EPA evaluated the two SNSVs previously conducted by KDHE in 2017 (Attachment 4) and 2020 (Attachment 5) of the PWS, to determine if the findings, violations, or significant deficiencies identified by the state had been remedied or otherwise addressed. Following the inspection, Brady Taylor also provided me with the most recent KDHE SNSV transmittal letter, dated September 13, 2023, which included the significant deficiencies and recommendations from the July 31, 2023, SNSV (Attachment 6). The following lists the KDHE's findings from the 2023 SNSV, and the current status of these issues based on EPA's inspection:

1. Significant Deficiency – PWS could not locate the emergency water supply plan. Status: The PWS provided a copy of the emergency water supply plan during the EPA inspection.
2. Significant Deficiency – PWS could not provide the cross-connection control ordinance, records of high hazard connections, or inspection certifications, as required by K.A.R. 28-15-18(f). Status: The PWS was able to provide the cross-connection control ordinance but was still unable to provide the record of high hazard connections or inspection records.
3. Recommendation – The PWS did not have a valve exercise program. Status: The system still did not have an active valve exercise program.
4. Recommendation – Chlorine residual sampling locations had little variation during the month of August in 2023. Status: Chlorine residual sampling records provided showed more variation in sample location.
5. Recommendation – The water storage structure has not been inspected within the last 3-5 years. Status: The specific water storage structure identified in the KDHE report was not stated. I requested inspection information for all water storage structures. This information is discussed in detail in the Finished Water Storage section of the report below.
6. Recommendation – The master meters were not reading properly during low flow at some consecutive connections. Status: All master meters were replaced during a 2024-2025 project.
7. Recommendation – No backup power sources available at the PWS in the event of a power failure. Status: The PWS still does not have backup power.

Water Source

The City of Emporia PWS sources its raw water from the Neosho River. The raw water intake station is equipped with a mechanical bar screen to remove large debris collected with the raw water at the intake. The bar screen requires periodic cleanout of collected debris, and debris was observed on the ground around the screening unit during the inspection (photo #22). I recommended that the PWS remove the debris, twigs, and leaves as a good housekeeping practice. According to city personnel, the bar screen is inspected daily to ensure proper operation. The intake pump station contained four vertical turbine pumps. Three of the four pumps were operational, and one was out of service for motor repair. Mr. Mason stated that the intake pumps are also inspected daily to ensure proper functioning. Mr. Mason specified that the system can draw an adequate quantity of water from the source using only two pumps, and that the others are for redundancy and to help maintain the pumps by allowing for rotation between pumps being used by the system. The pumps are operated using newly upgraded compressed air actuator systems, which use compressed air to open and close the valves of the intake pumps. The actuator valves were installed by the PWS in November of 2024 and according to Mr. Mason, can be operated manually in the event the intake building loses power. I also observed the electrical and chemical building located adjacent to the intake building. The electrical building was clean and well maintained. According to Mr. Mason, the variable frequency drives and SCADA controls were rehabilitated in early 2025.

Treatment

Following the intake building, the water is pumped to an underground vault in which a Clarifloc® polymer is added to the water as a flocculant and filter aid. Ferric chloride, for coagulation, is added to the water as it flows to one of two presedimentation basins, where suspended solids are settled. The water is piped to the lime chemical building where the plant utilizes a slaker to prepare the lime for addition through a flash mixer. The water enters one of three sedimentation basins for further settling. The flow continues by entering one of three first stage recarbonation basins. Carbon dioxide (CO₂) gas is added in the recarbonation basins to stabilize the water by lowering the pH and improve taste and odor. CO₂ gas is added into the basin through a stone diffusion process. The flow then comes from the three separate basins and travels to the ozone contact building. The system uses ozone as its primary disinfection method. Oxygen gas is stored within the ozone treatment building, and the oxygen gas goes through a process in which an electric current is introduced, changing the O₂ to O₃ ozone (photo #8). Following ozone, the water flows to the second recarbonization basin, and then to the filter building. The system utilizes 10 sand and anthracite filter basins to further remove any remaining dissolved solids and reduce turbidity in the water (photo #11). The system combines chlorine gas and ammonia sulfate to produce chloramines in the filter chemical building. The chloramines are added to the water after filtration. The system uses chloramines to maintain a disinfection residual in the distribution system. Finished water then flows to one of two 1.5-million-gallon ground storage tanks, known as the stand pipes, before entering the distribution system.

During the inspection I observed the presedimentation basins, which had a minor amount of vegetation growing in the weirs (photo #1) (NOPF #1). Vegetation growing on the weirs can impact the efficiency of the basin and should be removed to maintain optimal use of the presedimentation basins. Mr. Mason stated that the presedimentation basins are cleaned out

annually, however he stated they were overdue for clean out. On August 5, 2025, Mr. Grant sent photos showing the vegetation had been removed from the presedimentation basin (Attachment 3).

I observed the lime softening building, which houses the ferric chloride feed pumps and the ferric chloride storage totes. The ferric chloric feed pumps were seated on a metal shelf that showed significant deterioration and rusting, making it unstable (photo #2) (NOPF #2). Addressing the shelf is needed to ensure the proper handling and storage of the chemicals, chemical equipment, and chemical feed lines. I also observed staining on the ground around the ferric chloride totes indicating spills or leaking of chemicals on the ground, without any secondary containment (photo #3) (NOPF #3). Maintaining and cleaning the area ensures chemicals are not left on the ground.

I observed the sedimentation basins, which showed some signs of buildup around the perimeter of the basins (NOPF #4 and photo #5). I asked about basin clean out frequency, and Mr. Mason stated that the basins were due for a clean out and are typically cleaned out on an annual basis. I visually observed the recarbonization basin #2 and observed some algae growth at the surface of the basin (photo #6).

We did a walkthrough of the old chemical building and I observed spilled chemicals on the ground, and spill absorbant material (photo #7) (NOPF #9). Absorbant material should be swept off the ground as a best management practice. The system indicated that they use a combination of ozone and chloramines to disinfect the water. The ozone is the primary source of disinfection, and the chloramines provide a chlorine residual throughout the distribution system. PWS staff indicated that they do not have any issues maintaining an adequate chlorine residual.

The system began disinfecting with ozone during the summer of 2017. The system ensures they are meeting disinfection contact time daily. The surface water treatment rule requires a chloramine residual of at least 0.2 milligrams per liter (mg/l) before the first customer, and KDHE requires 1 mg/l throughout the distribution system. The system stated that they do not have issues meeting this requirement and that they maintain a level of chloramines between 3 and 4 mg/l. They stated that they do not typically have any disinfection byproduct issues. Disinfection residuals are monitored with daily grab samples as well as continuous monitoring through the SCADA system. I reviewed monitoring records provided for the PWS for the past year of disinfection residuals and did not find any concerns. The system provided records of the daily contact time calculations demonstrating how the system meets CT requirements.

I observed the filter building, where one filter basin was empty for cleaning purposes. We discussed the processes within the filtration system and Mr. Mason stated they aim for a turbidity goal around 0.05 Nephelometric Turbidity Unit (NTU). Mr. Mason stated the system typically achieves 50 hours of run time with the filter units before they need a backwash. He stated the need for a backwash is indicated by head loss, or increased turbidity. Mr. Mason indicated the combined filter effluent turbidimeters can measure up to 5 NTUs, and that the system maintains turbidity records for greater than the last five years. I reviewed several of the monthly records for daily combined filter effluent (CFE) readings taken in 2024 and 2025 and did not observe any readings exceeding 0.30 NTU. I observed the CFE meter which was reading 0.059 NTU at the time of the inspection. Mr. Mason indicated the filter media (sand and anthracite) are evaluated for turbidity removal efficiency every 3-5 years and replaced as needed. The filter media was

replaced in a replacement project from November of 2024 through March of 2025, where all ten basins received new filter media. I observed the filter pipe gallery located below the filters and all the pumps appeared to be in good working order. The finished water is pumped to one of two 1.5-million-gallon ground storage tanks, the West Tank or the East Tank.

Distribution System

Consecutive Connections

The City of Emporia PWS produces and sells water to seven consecutive systems including Coffey County RWDs 2 and 2E, City of Harford, Lyon County RWDs 1 and 2, 4, and 5, and City of Olpe. According to Mr. Grant, the consecutive systems maintain their respective meter housings apart from one, the meter box to Coffey RWD 2. During the inspection, we observed the master meter cover (photo #28). Mr. Grant stated he forgot to bring the keys to allow us to view the interior of the meter pit. I requested that the next time the city inspected this meter pit, that they send pictures of the interior to EPA. The City of Emporia maintains all consecutive connection metering equipment and replaced all the master meters between 2023 and 2024. I requested records of routine inspection and maintenance conducted at the master meters, and Mr. Grant stated that the system used to conduct and maintain inspection records, but had not conducted any recent inspections since the new master meters had been installed (NOPF #6). The system should have a routine schedule for inspection and maintenance as needed at the master meters.

Mr. Grant estimated the distribution system piping materials include 60% cast iron, 30% PVC, and 10% ductile iron. According to Mr. Grant, the system maintains consistent pressures throughout the distribution system and does not have any low-pressure areas. The system maintains pressures between 40 pounds per square inch (PSI) and 100 PSI depending on the location.

I asked system personnel if the distribution system had any backup power available in the event of a power failure. Mr. Grant explained that although the system does not have backup generators, they are located near the power company and are a first priority for the utility should the PWS lose power (NOPF #5). PWS's should have available backup power to operate the water system in the event of the power failure.

Cross-Connection Control

The City of Emporia has a cross-connection control ordinance, under Article IV- Backflow Prevention. The ordinance prohibits the water system from having a service connection which could actually or potentially cause a cross connection, requires consumers to conduct periodic surveys of customer owned backflow prevention devices, to investigate potential cross connections, requires backflow prevention devices be installed if required by judgment of the City, and testing requirement of devices of at least one per year, and has enforcement provisions to deny or discontinue water service for noncompliance with this ordinance. I asked if the PWS maintains an inventory of potential high hazard cross-connections served by the system or records of testing or inspections of the known backflow devices. Mr. Grant stated that the system does keep some records of cross-connections and connections with installed devices, although older devices were not tracked, and only more recently installed devices' inspections have been tracked. The system was not able to provide me with high hazard connection records (NOPF #11) or an inventory of backflow prevention devices installed (NOPF #7). Mr. Grant indicated

that city-owned backflow prevention devices are tested annually by a third-party, although the system did not produce any records of these inspections (NOPF #12). Tracking of cross connection hazards, backflow prevention devices, and annual inspections are a critical element of a Cross Connection Control Program to help prevent contamination of the PWS by non-potable water sources from hazardous connections. Kansas Administrative Regulations Section 28-15-18 (f) *requires PWSs have a “regular program for the detection and elimination of cross-connections and prevention of backflow and backsiphonage.”* Based on the explanation provided by Mr. Grant and the lack of records, the PWS does not appear to have a well implemented cross connection control program in place. This is listed as Finding #15 of this report and was identified after the inspection.

Flushing and Valve Exercise

I asked if the system has a flushing program, and Mr. Grant indicated that they did, and stated that he would provide those records. However, system flushing records were not provided as of the issuance of this inspection report (NOPF #13). The system should ensure that proper flushing practices are used at the locations of the distribution system that need it, to reduce water age, and reduce disinfection byproduct production at the zones farthest from the treatment plant, and that adequate records are maintained and readily available upon request by the state or EPA.

Valve exercise logs and/or program implementation records were requested, however, the PWS could not provide any records of a valve exercise program during or following the inspection. This is Finding #16 of this report and was identified after the inspection.

Lead and Copper Rule

I reviewed the PWS’s LCR records including their Lead Service Line Inventory submitted pursuant to 40 CFR 141.84(a)(1) of the Lead and Copper Rule Improvements (LCRI). Based on the inventory submitted by the PWS in 2024, the system has 22 service lines that contain lead plumbing materials. The PWS did not submit the most recent sampling plan to me by the time of issuance of this report. I requested a copy of the most recent LCR sampling records on August 13, 2025, however the system did not provide these records before the issuance of this report. This is Finding #17 summarized below in this report and was identified after the inspection. According to KS DWW the PWS is on a reduced monitoring scheduled and is required to sample at 30 locations, triennially. DWW shows the PWS met the 90th percentile lead and copper action levels for the 2022 sampling event. The PWS should ensure that they update their LCR sample plan to include known lead sources before the next sampling cycle.

Revised Total Coliform Rule (RTCR)

Total coliform monitoring is determined by population served; therefore, Emporia’s PWS is required to collect 30 samples per month because the system serves approximately 24,009 people. I reviewed the 2025 RTCR sample plan, which shows the distribution system divided into 25 zones, with five sample site locations within each zone. I requested RTCR sample results for the past year, but did not receive them. Therefore, I was not able to verify if the PWS is sampling according to the sample site plan. According to Kansas DWW the PWS has not had any RTCR related violations within the past five years.

Finished Water Storage Structures

The PWS has two ground storage tanks and two elevated finished water towers. The table below summarizes the water storage structures, including type of facility, its capacity, the date of the last contracted inspection and a summary of actions and findings associated with the most recent inspections.

Finished Water Storage				
Storage Facility Name	Type	Capacity (gallons)	Last Inspection Date	Inspection Report Summary
West Tank	Ground	1.5 million	2018	inspection, and touch up and clean out.
East Tank	Ground	1.5 million	2018	inspection, and touch up and clean out.
12th Ave Tower	Elevated	1 million	2025	good condition, no action needed
Warren Way Tower	Elevated	1 million	n/a	installed in 2020 not inspected yet

I inspected the system's four finished water storage structures, which included an evaluation of what can be visually observed from the ground including, security measures, overflow pipes, access hatches, pipe screens, concrete pads, and general housekeeping and vegetation management. According to Mr. Mason the finished water storage tanks interior and exterior are inspected by contractors every 3 to 5 years. Mr. Grant stated that the PWS implements and addresses corrective action recommendations, including repainting, sanitary defects, clean outs, and other repairs made by the contractor immediately for any significant issues, and schedule routine maintenance as recommended.

The Warren Way Tower is the city's newest water storage structure at the PWS. The structure was completed and placed into service approximately five years ago and based on the PWS's inspection and maintenance schedule it will be due for inspection in 2026.

Finished water storage inspection reports were not available at the time of the inspection (NOPF #10), however, following the inspection Mr. Grant provided me copies of the 2018 inspections conducted at the West Tank and East Tanks, and the July 2025 inspection of the 12th Avenue Tower on August 5, 2025 (attachment 3). According to the 2018 inspection reports, both the West Tank and East Tank did not have any sanitary defects, or significant concerns, were well maintained, and received some maintenance including an interior clean out and minor touch up to the exterior coating. However, after reviewing the inspection reports, that were provided after the inspection, I noted that the West Tank and East Tank have not been inspected in 7 years. This is included with Finding #14 of this report and was identified after the inspection. The EPA provides guidance that finished water storage tanks be inspected every 3 to 5 years in accordance with AWWA 2013 guidance.

According to the inspection report conducted by KLM in July 2025, the 12th Avenue Tower did not have any sanitary defects, no significant concerns, and were well maintained with no recommended actions. I observed some vegetation taking root at the concrete base of the 12th Avenue elevated storage tower (photo #24) (NOPF #8). Any vegetation growing at the base of concrete structures should be removed to reduce risk of compromising structural integrity of the concrete pads. I also observed the bottom of the screen on the overflow pipe of the 12th Avenue Tower was blown out or torn that created a large opening in the screen (photo #25) (NOPF #8). The screen should be repaired or replaced, as soon as possible, to ensure small animals or insects cannot enter the overflow pipe. Apart from the torn overflow screen observed at the 12th Avenue Tower and the lack of recent inspections of the East and West Towers, based on my inspection of the water storage facilities, they appeared to be well maintained, and exterior coatings of the

tanks appeared in satisfactory condition, overflow pipes were screened and fitted with metal flap gates, and were located inside areas with security fencing and locked gates.

Operations and Management

The City of Emporia owns and operates the PWS. The City plans, tracks, and maintains records for water use, water sales, and other water related fee sources. The City plans and tracks an annual budget to ensure the system has reserve funds for capital improvement projects (CIP) planned each year. The system has had annual water rate increases to help improve the water budget and ensure adequate funding. Based on review of CIP funding plans provided by the system, and discussions with system personnel, the system plans and implements ongoing improvement projects including water main upgrades and replacements, updating variable frequency drives (VFDs) at the water intake station, pump maintenance and upgrades, master meter replacement projects, all new media within the filter basin (2024-2025), as well as ongoing maintenance and rehabilitation projects throughout the plant. The system was in the process of upgrading the sludge collection basins at the time of the inspection.

Mr. Mason stated that he prioritizes system improvements and manages water system update plans to help keep the system operating efficiently and effectively. The system did not express any concerns with water budget, or a lack of needed resources. Overall the system appeared to have well managed and well implemented approach to incremental improvements throughout both the water plant and distribution system to help ensure the system continues to provide a quality public utility.

American Water and Infrastructure Act (AWIA)

I reviewed the PWS's Risk and Resiliency Assessment (RRA) and their Emergency Response Plan (ERP) to determine whether they meet the criteria established under AWIA Section 2013. The PWS certified to EPA that they completed the requirements under AWIA on June 25, 2021, for the RRA, and December 20, 2021, for the ERP. The requirements of the RRA and ERP are described at <https://www.epa.gov/waterresilience/awia-section-2013>. The RRA and the ERP contained all of the required information.

SUMMARY AND CONCLUSION

The preliminary findings identified in the NOPF were discussed with facility personnel during the exit conference held at the end of the inspection on July 15, 2025. A NOPF was provided via email to the City of Emporia on July 18, 2025 (Attachment 2). I informed the system of their opportunity to claim Confidential Business Information (CBI) and the CBI form via email July 21, 2025. The City's responses to the NOPF are included as Attachment 3.

1. Vegetation observed growing in the weirs of the presedimentation basin #1. Following the inspection, the PWS submitted photos showing the vegetation had been removed from the basin.
2. The shelf holding the ferric chloride feed pumps within the chemical building was significantly deteriorated and rusted impacting the integrity of the shelf holding the feed pumps and chemical feed lines.

3. The ferric chloride spills were observed on and around the ferric chloride storage totes stored in the chemical building, and old chemical building.
4. The sedimentation basin #3 had build-up present on the outer perimeter of the basin.
5. The PWS did not have back-up power available for any components of the water system.
6. The PWS did not have a routine inspection or maintenance schedule, or records for the master meter pit inspections.
7. The PWS did not provide record of its inventory of backflow prevention devices, as part of the cross-connection control program.
8. The 12th Avenue elevated storage tower overflow screen was blown out on the bottom, creating a large opening in the screen. The tower also had vegetation taking root at the base of the concrete pad.
9. Spilled chemicals were observed around the chemical storage totes in the chemical building near the water intake building.
10. The PWS did not provide of inspection records for the West ground storage tank or the East ground storage tank. The PWS provided these inspection records following the inspection.
11. The PWS did not provide records of high-hazard connections, as part of the cross connection control plan.
12. The PWS did not provide records demonstrating backflow prevention device testing results/certifications.
13. The PWS did not provide records demonstrating a flushing program had been implemented.

The following Findings were identified after the inspection:

14. The PWS has not inspected the East or West ground storage tanks since 2018. Finished Water Storage tanks are to be inspected every 3 to 5 years.
15. The PWS did not have a well implemented cross connection control plan.
16. The PWS did not provide records to demonstrate an active valve exercise program.

ANGELA
POLLARD

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Nicole Moran
Supervisor, WB/DWIS

ATTACHMENTS:

1. Photolog and Digital Photographs (33 pages)
2. Notice of Preliminary Findings (2 pages)
3. Emporia NOPF response (194 pages)
4. KDHE 2017 Sanitary Survey (15 pages)
5. KDHE 2020 Sanitary Survey (15 pages)
6. KDHE 2023 SNSV significant deficiencies letter (4 pages)
7. Emporia Backflow prevention ordinance (8 pages)



United States Environmental Protection Agency – Region 7

Digital Image Log

1. Facility Name: City of Emporia, PWS		3. Inspector Name: Angela Pollard	
2. FRS #:			
4. Photographer (if Different):		5. Date of Inspection: 7/14/2025& 7/15/2025	
6. Street Address of Digital Images:		7. City: Emporia	8. State: KS
		9. Zip:	
10. Image Numbers: 31		11. File Name: Emporia PWS	

Digital Image Number	File Name	Description	Date and Time Digital Image Taken
1	20250714_181100310_iOS.jpg	Presedimentation basin #1 showing vegetation growing in the weirs.	2025:07:14 13:11:00
2	20250714_181905599_iOS.jpg	Lime softening building, ferric chloride feed pumps sitting of unstable shelf, significant rusting and deterioration observed.	2025:07:14 13:19:05
3	20250714_181927923_iOS.jpg	Lime softening building, ferric chloride totes had staining and evidence of leaking or spilling below and around the totes.	2025:07:14 13:19:27
4	20250714_181936830_iOS.jpg	Lime softening building, showing the slaker and basin on the far left where lime is mixed into the water.	2025:07:14 13:19:36
5	20250714_182304274_iOS.jpg	Photo of sedimentation basin #3. Some build up observed around the perimeter of the basin.	2025:07:14 13:23:04
6	20250714_182552326_iOS.jpg	Photo of 1st recarbonization basin #2, showing algae growth floating on the surface of the water.	2025:07:14 13:25:52
7	20250714_183924462_iOS.jpg	Photo of old chemical building with chemical storage totes, showing spills and spill absorbant materials on the ground.	2025:07:14 13:39:24
8	20250714_184242298_iOS.jpg	Ozone contact building, showing ozone production equipments converting oxygen to ozone.	2025:07:14 13:42:42
9	20250714_185055313_iOS.jpg	Ozone contact building, showing the ozone injection points. The 4th injection point was down for repair.	2025:07:14 13:50:55
10	20250714_185218552_iOS.jpg	Ozone destruction unit housed in separate building.	2025:07:14 13:52:18
11	20250714_185931402_iOS.jpg	Filtration building, showing 1 of 10 filter basins.	2025:07:14 13:59:31
12	20250714_190158683_iOS.jpg	Photo of the CFE turbidimeter located in the pipe gallery below the filter basins, reading 0.059 NTU.	2025:07:14 14:01:58
13	20250714_190817923_iOS.jpg	Pipe gallery below the filter basins, pump of the left is one of two filter backwash pumps that filter to waste. Two pumps on the right pump finished water to the ground storage tanks.	2025:07:14 14:08:17
14	20250714_190942896_iOS.jpg	Same photo as photo 13 looking left. Two grey pumps are filter backwash pump. Far left are the 3rd and 4th pumps used to pump finished water to the ground storage tanks.	2025:07:14 14:09:42
15	20250714_191348144_iOS.jpg	Standpipe's East and West ground storage tanks, used as clearwells prior to finished water entering the distribution system.	2025:07:14 14:13:48
16	20250714_192007485_iOS.jpg	East stand pipe overflow downturned and screened., close up view of screen.	2025:07:14 14:20:07

17	20250714_192030077_iOS.jpg	East stand pipe overflow downturned and screened.	2025:07:14 14:20:30
18	20250714_193249394_iOS.jpg	SCADA system screen showing pump operations, ground storage tanks and elevated storage towers.	2025:07:14 14:32:49
19	20250714_193331233_iOS.jpg	Marker board diagram showing the water treatment plant schematic for plant operations, flow route, and sample points.	2025:07:14 14:33:31
20	20250714_200057271_iOS.jpg	Four turbine pumps housed in the intake building which pump raw water from the Neosho River.	2025:07:14 15:00:57
21	20250714_200104533_iOS.jpg	Same as photo 20, zoomed in showing the upgraded valve system that operated on compressed air.	2025:07:14 15:01:04
22	20250714_200112650_iOS.jpg	Intake mechanical bar screen with accumulated debris, twigs and leaves on the ground.	2025:07:14 15:01:12
23	20250714_200724239_iOS.jpg	Intake chemical building housing several storage totes containing clarifloc 378 chemicals used for flocculation and sedimentations. Spills and leaking evident on the floor.	2025:07:14 15:07:24
24	20250714_202715659_iOS.jpg	Photo of woody vegetation growing at the base of the 12 th Avenue elevated water storage tower.	2025:07:14 15:27:15
25	20250714_202855411_iOS.jpg	The 12 th Avenue elevated water storage tower overflow fitted with a metal flap gate and mess screen. The bottom of mesh screen was blown out.	2025:07:14 15:28:55
26	20250714_202903730_iOS.jpg	Same image as photo 24, showing closed metal flap gate.	2025:07:14 15:29:03
27	20250714_203038200_iOS.jpg	Image of the 12 th Avenue elevated water storage water.	2025:07:14 15:30:38
28	20250714_204626753_iOS.jpg	Exterior view of the master meter pit to the consecutive connection to Coffey County RWD #2.	2025:07:14 15:46:26
29	20250714_205828306_iOS.jpg	Liquid ammonia storage and feed pump located inside the Warren Way elevated water storage tower chemical room.	2025:07:14 15:58:28
30	20250714_210434770_iOS.jpg	Chlorine gas canisters stored inside the Warren Way elevated water storage tower chemical room.	2025:07:14 16:04:34
31	20250714_210750863_iOS.jpg	Warren Way elevated water storage tower overflow downturned fitted with metal gate flap and screened. Some flaked and rusted pipe material captured behind the screen.	2025:07:14 16:07:50

Number	Photo
1	 Presedimentation basin #1 showing vegetation growing in the weirs. 20250714 181100310 iOS.jpg

2



Lime softening building, ferric chloride feed pumps sitting on unstable shelf, significant rusting and deterioration observed.

20250714 181905599 iOS.jpg

3



Lime softening building, ferric chloride totes had staining and evidence of leaking or spilling below and around the totes.

20250714 181927923 iOS.jpg



Lime softening building, showing the slaker and basin on the far left where lime is mixed into the water.

5



Photo of sedimentation basin #3. Some build up observed around the perimeter of the basin.

20250714 182304274 iOS.jpg

6



Photo of 1st recarbonization basin #2, showing algae growth floating on the surface of the water.

20250714 182552326 iOS.jpg



Photo of old chemical building with chemical storage totes, showing spills and spill absorbant materials on the ground.



Ozone contact building, showing ozone production equipments converting oxygen to ozone.



Ozone contact building, showing the ozone injection points. The 4th injection point was down for repair.

10



Ozone destruction unit housed in separate building.

20250714 185218552 iOS.jpg

11



Filtration building, showing 1 of 10 filter basins.

20250714 185931402 iOS.jpg

12



Photo of the CFE turbidimeter located in the pipe gallery below the filter basins, reading 0.059 NTU.

20250714 190158683 iOS.jpg



Pipe gallery below the filter basins, pump of the left is one of two filter backwash pumps that filter to waste. Two pumps on the right pump finished water to the ground storage tanks.



Same photo as photo 13 looking left. Two grey pumps are filter backwash pump. Far left are the 3rd and 4th pumps used to pump finished water to the ground storage tanks.

15



Standpipe's East and West ground storage tanks, used as clearwells prior to finished water entering the distribution system.

20250714 191348144 iOS.jpg

16



East stand pipe overflow downturned and screened., close up view of screen.

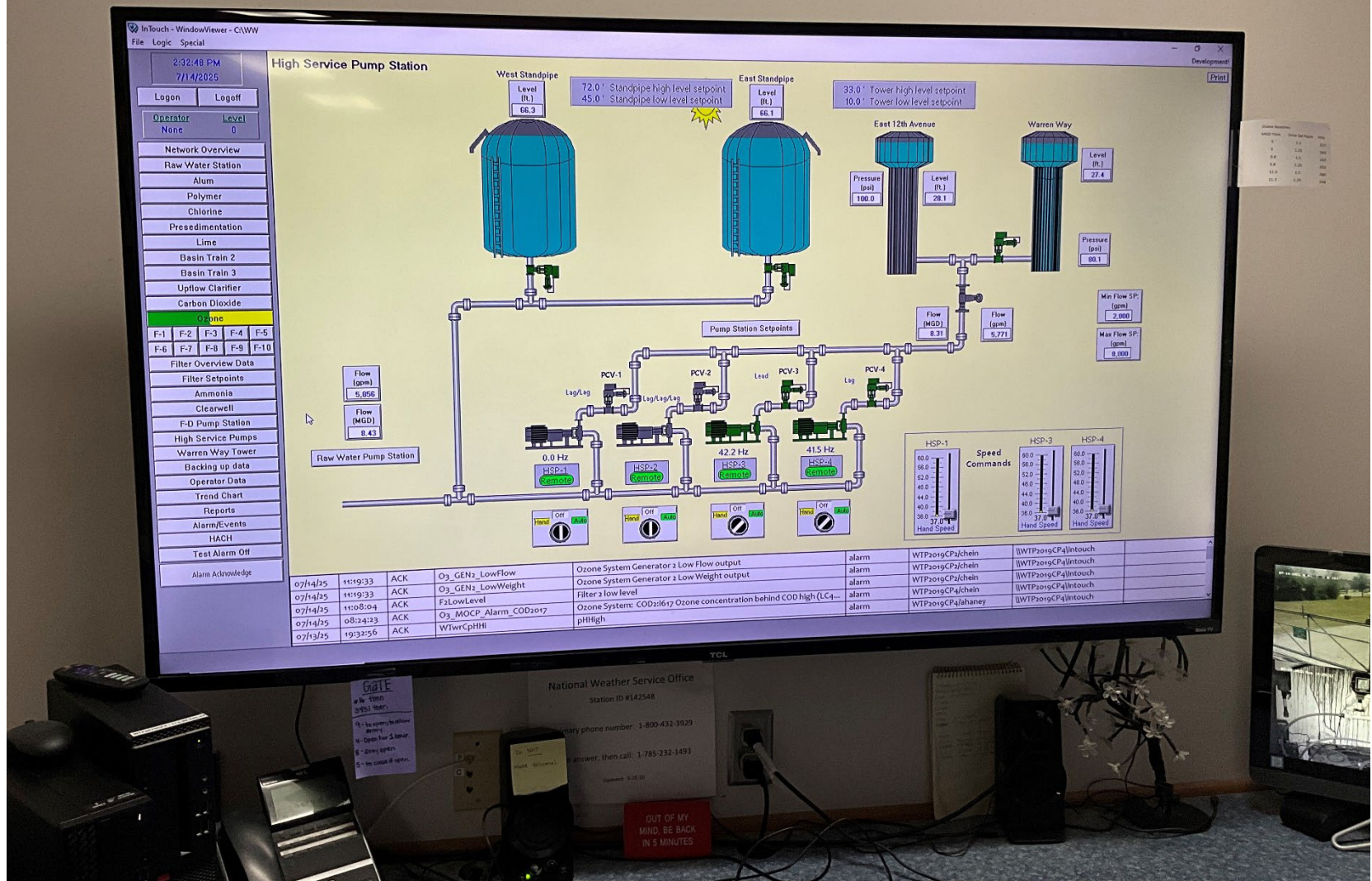
20250714 192007485 iOS.jpg

17



East stand pipe overflow downturned and screened.

20250714 192030077 iOS.jpg



SCADA system screen showing pump operations, ground storage tanks and elevated storage towers.

19

Marker board diagram showing the water treatment plant schematic for plant operations, flow route, and sample points.

20250714 193331233 iOS.jpg



Four turbine pumps housed in the intake building which pump raw water from the Neosho River.

21



Same as photo 20, zoomed in showing the upgraded valve system that operated on compressed air.

20250714 200104533 iOS.jpg

22



Intake mechanical bar screen with accumulated debris, twigs and leaves on the ground.

20250714 200112650 iOS.jpg

23



Intake chemical building housing several storage totes containing clarifloc 378 chemicals used for flocculation and sedimentations. Spills and leaking evident on the floor.

24



Photo of woody vegetation growing at the base of the 12th Avenue elevated water storage tower.

20250714 202715659 iOS.jpg

25



The 12th Avenue elevated water storage tower overflow fitted with a metal flap gate and mess screen. The bottom of mesh screen was blown out.

20250714 202855411 iOS.jpg

26



Same image as photo 24, showing closed metal flap gate.

20250714 202903730 iOS.jpg

27



Image of the 12th Avenue elevated water storage water.

20250714 203038200 iOS.jpg

28



Exterior view of the master meter pit to the consecutive connection to Coffey County RWD #2.

20250714 204626753 iOS.jpg



Liquid ammonia storage and feed pump located inside the Warren Way elevated water storage tower chemical room.

30



Chlorine gas canisters stored inside the Warren Way elevated water storage tower chemical room.

20250714 210434770 iOS.jpg

31



Warren Way elevated water storage tower overflow downturned fitted with metal gate flap and screened. Some flaked and rusted pipe material captured behind the screen.

No changes were made to the original image files