EPA United States Environmental Protection Agency

Region 6 - Enforcement & Compliance Assurance Division

INSPECTION REPORT

Inspection Date(s):	06/28/2023	
Media Program:	Water	
Regulatory Program(s)	AWIA/SDWA	
Facility Name:	**Hot Springs Utilities**	
Facility Physical Location:	780 Adams St.	
(city, state, zip code)	Hot Springs, Arkansas, 71901	
Mailing address:	Hot Springs Utilities P.O. Box 550	
(city, state, zip code)	Hot Springs, AR 71901	
County/Parish:	Garland County	
Facility Phone Number	501-781-2032	
Facility Contact:	Cody Howell	Water Production Manager
	chowell@cityhs.net	
FRS Number:	N/A	
Identification/Permit Number:	AR0000209	
Media Identifier Number:	N/A	
NAICS:	N/A	
SIC:	N/A	

Personnel participating in inspection:		
Cody Howell	City of Hot Springs	Water Production Manager
Chase Helton	City of Hot Springs	Water Production Superintendent
Howard Hoover	City of Hot Springs	Water Systems Admin Coordinator
Jake Okun	PG Environmental	EPA Contract Inspector
Sami Fares	Arkansas Department of Health	District Engineer

EPA Lead Inspector: Jake Okun Signature/Date		8/17/2023
	Jake Okun (PG Environmental)	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

On June 28, 2023, a U.S Environmental Protection Agency (EPA) Region 6 contract inspector from PG Environmental (hereinafter, the EPA Inspector) conducted an announced American Water Infrastructure Act (AWIA) Risk and Resiliency Assessment (RRA) and Emergency Response Plan (ERP) program/document inspection of the Hot Springs Utilities (System), ID No. AR0000209. The inspection process began at approximately 9:30 a.m. on June 28, 2023, and finished at approximately 2:10 p.m. Sami Fares, a district engineer from the Arkansas Department of Health (ADH), was also present for the inspection.

Jake Okun of PG Environmental presented his SDWA inspector credential to the System representative upon arrival. He informed him that this was an inspection to observe compliance with the Safe Drinking Water Act (SDWA) Section 1433(a) and (b), which requires community water systems that serve more than 3,300 people to complete a RRA and develop an ERP. To facilitate the inspection process, a checklist outlining the requirements of SDWA Section 1433(a) and (b) was used during the document review (refer to Appendix 1, Safe Drinking Water Act (SDWA) Sections 1433(a) and (b) Checklist). The EPA Inspector met with Cody Howell, the Water Production Manager, Chase Helton, the Water Production Superintendent, and Howard Hoover, the Water Systems Admin Coordinator, for the opening conference.

As a component of the RRA and ERP document review, the following field assets were also observed:

Water Treatment Plants:

- Ouachita Water Treatment Plant

Finished Water Storage Tanks:

- Music Mountain Water Storage Tank

Pump Stations:

- Music Mountain Pump Station

SYSTEM DESCRIPTION

The Hot Springs Utilities System is a surface water treatment system that maintains and operates two treatment plants: the Lakeside Water Treatment Plant and the Ouachita Water Treatment Plant. The distribution system consists of five pump stations, and approximately 11 active water storage tanks. Only the Ouachita Water Treatment Plant (WTP) was inspected during this inspection. The general treatment process at the plant includes influent pumping via five raw water pumps, addition of poly-orthophosphate, rapid mixing, coagulation, sedimentation, filtration (using multi-media filters), and chemical addition of lime, sodium hypochlorite, and fluoride. Treated water is sent to a 2,000,000-gallon onsite clear well to achieve contact time prior to being pumped into the distribution system via four high service pumps. The System serves a population of approximately 91,479 people.

There are three consecutive systems associated with Hot Springs Utilities, including Riviera Utilities, Mountain Pine, and North Garland County. The WTP is staffed 24 hours per day, seven days per week, and there is always a staff member onsite. During the night shifts, only one operator is present at the plant. This is also the case for the weekend shifts. System representatives stated that they would prefer to have more staff members onsite during these shifts. There are approximately 18 System operators working in production, and an additional 20 working in the distribution system on field crews.

ASSET WALKTHROUGH

Ouachita Water Treatment Plant

The Ouachita WTP and its associated assets were surrounded by a locked perimeter fence with barbed wire, and there were signs posted on the fences displaying the name of the System, as well as "No Trespassing" (refer to Appendix 2, Photographs 1 and 2). The plant walkthrough began at the raw water intake pump station, which housed five raw water pumps (refer to Appendix 2, Photograph 3). The pump station was positioned next to the Ouachita River, and System representatives indicated that the intake split into two separate pipes, one upstream and one downstream. A previous sanitary survey had indicated that the System was not using food-grade oil as lubricant in the raw water pump station. During the inspection, the Water Production Manager stated that they were now utilizing "Syntex FG AW/EP 32" as lubricant, which is a food-grade oil.

Following the intake, the 100,000-gallon elevated backwash water storage tank was observed (refer to Appendix 2, Photograph 4). System representatives stated that the tank contained finished water from the WTP, and it was used to backwash the filters at the treatment plant. The Water Production Manager stated that the high service pumps which send treated water into the distribution system were used to fill the tank, and that there were check valves on the lines from the pumps to the tank to prevent backflow. There was a concrete splash pad beneath the terminus of the overflow pipe, and it appeared to be worn in the area closest to the tank (refer to Appendix 2, Photograph 6). The Water Production Manager stated that they were waiting to hear back on bids that were sent out to rehabilitate this tank.

Inside the WTP, the caustic soda, poly-orthophosphate, and coagulant chemical storage room was observed. The caustic soda storage tank was observed, and System representatives stated that caustic was only added if their finished water pH was too low. The poly-orthophosphate storage tank and two day tanks were also present in the room, as well as the coagulant storage tank (refer to Appendix 2, Photographs 7 and 8). There were multiple carry water lines containing finished water that were being used to facilitate chemical addition and there was no backflow prevention on the lines inside of the chemical building (refer to Appendix 2, Photographs 11 and 12). There were also threaded hose taps without backflow prevention in this room. However, the Water Production Manager stated that there was an RPZ that was used on the finished water line leading to the chemical building, so individual backflow preventers were not necessary. The EPA Inspector observed the RPZ that was located outside of the building (refer to Appendix 2, Photograph 13). A chemical spill kit was present next to the

chemical storage tanks, and a "Spill Response" standard operating procedure (SOP) was posted on the wall next to the spill kit (refer to Appendix 2, Photographs 14 and 15).

Following the chemical storage room, the rapid mix tank was observed. There were two rapid mixers in place, but System representatives stated that only one was needed for adequate mixing (refer to Appendix 2, Photograph 16). The coagulant injection point was observed (refer to Appendix 2, Photograph 17). The sedimentation basins were observed next. There are seven total sedimentation basins, with Basin Nos. 6 and 7 being positioned in one location, and Nos. 1-5 being positioned in another location (refer to Appendix 2, Photographs 18 and 19). System representatives stated that modulating valves controlled the amount of flow that was sent to the two sets of basins, with 40 percent being sent to Nos. 1-5 and 60 percent being sent to Nos. 6-7. Water enters the basins through a flocculation chamber where it is slowly mixed prior to entering the main basin (refer to Appendix 2, Photograph 20).

After sedimentation, the water flows over a set of weirs to the filters. There was a buildup of algae in some of the weirs which was causing some short circuiting of the water flowing over (refer to Appendix 2, Photograph 23). The Ouachita WTP has nine mixed media filters. The media includes anthracite, sand, and gravel. Each filter had a level transducer and an individual turbidimeter (refer to Appendix 2, Photograph 24). System representatives stated that backwash cycles occurred based on head loss.

After the filters, the sodium hypochlorite storage room and tanks were observed (refer to Appendix 2, Photograph 25). There were electronic level indicators present next to the tanks, and there were signs noting the safety information about the sodium hypochlorite. The combined filter effluent turbidimeter was also present in this room. The turbidimeter was reading 0.024 NTU at 12:34 p.m., and System representatives stated that this reading came from a common effluent line extending from the filters (refer to Appendix 2, Photograph 26).

After treatment, water is sent to an onsite clear well (Clear Well #3) to achieve contact time. There were previously multiple clear wells onsite at the Ouachita WTP, but only one is in use now as the others were formally decommissioned by being cut and capped from the finished water line. Clear Well #3 is a 2,000,000-gallon tank that is partially below grade (refer to Appendix 2, Photograph 27). There was an elevated hatchway leading to the clear well, and there was a shoebox style lid covering the hatchway (refer to Appendix 2, Photograph 28).

The overflow pipe extended out of the clear well and terminated below grade into a manhole downhill from the clear well. The end of the overflow pipe was covered by a flapper valve that had a tight seal (refer to Appendix 2, Photograph 33). There were four high service pumps next to the clear well, and the Water Production Manager stated that they were used to send finished water to the Music Mountain Water Storage Tank in the distribution system (refer to Appendix 2, Photograph 34). Pump No. 2 was offline during the inspection because the motor was being repaired. The motor was sitting on the ground next to the other pumps (refer to Appendix 2, Photograph 35).

Lastly, the mounted 2.0 MW backup generator was observed (refer to Appendix 2, Photograph 36). The Water Production Manager stated that the generator could handle the full load of the WTP in the event of a power outage, and that the generator would turn on automatically. He stated that the generator was load tested every Wednesday.

Music Mountain Water Storage Tank and Pump Station

After the Ouachita WTP, the Music Mountain property was observed, which contained the 3,000,000-gallon Music Mountain Water Storage Tank and Music Mountain Pump Station. The property was surrounded by a locked perimeter fence with barbed wire (refer to Appendix 2, Photograph 37). Inside the pump station, there were five pumps, with one having been recently replaced (refer to Appendix 2, Photograph 38). The Water Production Manager stated that the System was in the process of replacing Pump Nos. 2 and 3, and that Pump No. 2 was not functional. An emergency backup generator was present outside of the pump station, and the Water Production Manager stated that it would turn on automatically in the event of a power outage (refer to Appendix 2, Photograph 43).

Outside of the pump station, the Music Mountain Storage Tank was observed. The tank did not contain a ladder, and System representatives stated that a truck with an elevated platform was used to access the top of the tank. The overflow pipe extended from the tank, and the opening was covered by a flapper with a tight seal (refer to Appendix 2, Photograph 44).

SYSTEM SECURITY AND MONITORING

The System utilizes a SCADA system to monitor tank levels, alerts, and other activity in the distribution system. An auto-dialer system is programmed to call the Chief Operator during off hours in the event of an alert on the SCADA system. At least one operator is also always on site at the treatment plants. The Chief Operator calls the other operators in if necessary to respond to alerts at the treatment plants. Alerts include high turbidity, tank level alarms, chemistry level alarms, and pressure alarms. Only select personnel have access to the SCADA system [redacted] Multi-authentication is used to ensure secure access to the SCADA system. The Operations Manager stated that pumps could be turned on and off through SCADA, but that chemical dosage rates needed to be manipulated manually. During the inspection, one SCADA screen was being used for WTP #1 and #2, and a separate screen was being used for WTP #3 and #4. The Operations Manager stated that they were in the process of converting to an updated SCADA system which is why WTP #1 and #2 were on a newer SCADA system.

In terms of physical security, the Ouachita WTP and its associated assets are surrounded by locked perimeter fences with barbed wire and "No Trespassing" signs. There were also cameras positioned around the WTP which record surveillance footage of all of the critical assets on the property. The Music Mountain property is surrounded by a locked perimeter fence with barbed wire, but there were no "No Trespassing" signs on the fence.

RRA AND ERP GENERATION

The System contracted Hawkins-Weir Engineers, Inc. to generate their RRA document. System representatives generated the ERP document themselves. The RRA was included as an appendix in the System's overall ERP binder which also included their cross contamination prevention plan, emergency contact information, and valve exercise program.

RISK AND EMERGENCY RESPONSE EXAMPLES

As a component of the RRA and ERP document review, and to provide an example of emergency response and risk assessment, the EPA Inspector asked System representatives to describe their response to three specific challenges that many/all of the systems in Arkansas have faced within the last few years:

The "deep freeze" event of February, 2021 which impacted much of the American southern region. During this event, temperatures were below freezing for a prolonged period of time causing water related infrastructure to freeze. Hot Springs Utilities System representatives stated that the deep freeze heavily impacted their distribution system, but that they had prepared to respond to the event ahead of time. They stated that there were over 4,000 major leaks in service lines and fire lines. They were able to identify where the leaks were coming from by comparing normal water use to water use during the freeze event. They stated that the System coordinated with the local fire and police department to shut off meters while line repairs took place throughout the distribution system.

Tornados, which are a common occurrence in Arkansas. The Hot Springs Utilities System had a written response to tornadoes, which included locating "safe rooms" to wait out the storm, if necessary, followed by assessing the damage and responding to any damaged infrastructure.

The transfer of knowledge from experienced System representatives to new staff members after experienced staff members are no longer employed by the System. Hot Springs Utilities System representatives stated that they had plant-specific SOPs in place to respond to damage or failures at the System treatment plants or in the distribution system. They also indicated that they had comprehensive operations and maintenance (O&M) manuals that staff members could use to familiarize themselves with plant specific equipment.

Section II - OBSERVATIONS

The following observations pertain to the SDWA Section 1433(a), Risk and Resilience Assessments.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(i), states that "Risk and resilience assessments shall include an assessment of the risk to the system from malevolent acts and natural hazards."

Observation 1. The risk to the system from malevolent acts and natural hazards was broken into separate sections including source water risks, risks to physical barriers around assets, risks to the assets themselves, and risks to pipes and horizontal assets in the

distribution system. Each section outlined the asset, the location of the asset, the potential threats to the assets, and a detailed description of the threats and potential mitigation strategies. Threats such as earthquakes, freezes, droughts, floods, and cybersecurity attacks were identified in the RRA document as threats to critical assets throughout the System. System representatives stated that tornados were also threats, but tornados were not listed in the RRA document. When this was discussed with System representatives, they contacted the contractor who generated the RRA, and the contractor emailed back a paragraph addressing the threat of tornadoes to be added to the current RRA document.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(ii), states that "Risk and resilience assessments shall include the resilience of the pipes and constructed conveyances, physical barriers, source water, water collection and intake, pretreatment, treatment, storage and distribution facilities, electronic, computer, or other automated systems (including the security of such systems) which are utilized by the system."

Observation 2. The resilience of structures such as pipes, physical barriers, source water, intake structures, storage, and distribution facilities were outlined in the RRA document. The structure was listed, and the security measures and resilience of each specific structure was described in paragraph form. The paragraphs described measures taken to make each structure more resistant, and threat categories were broken into "Human Caused Events" and "Natural Events."

Physical security measures, including locked fences with barbed wire were outlined in this section of the RRA document. Cameras were also described in the document, and System representatives showed the EPA Inspector their camera screen which showed various locations around the Ouachita Water Treatment Plant.

Cybersecurity measures were outlined in the RRA document. These measures included allowing only select personnel to access the SCADA system on a secure server. The System utilizes a contractor to maintain their cybersecurity through software that is designed to prevent hacking.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(iii), states that "Risk and resilience assessments shall include an assessment of the monitoring practices of the system."

Observation 3. The RRA document outlined the System's monitoring practices which include surveillance cameras positioned around the water treatment plants, as well as a SCADA system that is used to monitor and track trends and alarms at the treatment plants, as well as in the distribution system. The RRA documents a procedure for operator response to observing damage caused by malevolent acts or natural hazards on the security cameras or the SCADA system.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(iv), states that "Risk and resilience assessments shall include an assessment of the financial infrastructure of the system."

Observation 4. The RRA document outlines the System's use of an Advanced Meter Infrastructure (AMI) program which digitally documents and records customer's meter usage and bills them accordingly. This financial information is stored on a secure server [redacted]

[redacted] The RRA documents a procedure that would occur if the AMI system failed or went offline. The procedure includes taking manual monthly meter readings to determine billing.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(v), states that "Risk and resilience assessments shall include an assessment of the use, storage, or handling of various chemicals by the system."

Observation 5. The RRA document evaluates the impacts to the storage, use and handling of various chemicals by the System based on an uncontrolled spill. A procedure to handle an uncontrolled spill is outlined in the document. Additionally, an SOP is posted above a spill kit in the chemical storage room at the Ouachita Water Treatment Plant. Chemicals are stored at the treatment plants in double-walled tank for added protection. The chemical storage rooms have secure doors and security cameras are positioned on the chemical storage tanks for video surveillance.

The Safe Drinking Water Act, Section 1433(a)(1)(A)(vi), states that "Risk and resilience assessments shall include an assessment of the operation and maintenance of the system."

Observation 6. The O&M section of the RRA documents specific examples such as the freeze event in February 2021 and the COVID-19 pandemic as natural hazards that have impacted O&M at the System treatment plants in in the distribution system. The RRA provides specific examples of how operations may change in response to a natural disaster such as an earthquake, fire, drought, or ice storm. It also provides operational responses to a human caused threat such as a terrorist attack.

The following observations pertain to the SDWA Section 1433(b), Emergency Response Plan.

The Safe Drinking Water Act, Section 1433(b)(4), states that "The emergency response plan shall include strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system."

Observation 7. The ERP document lists cameras positioned throughout the water treatment plants as strategies to detect possible malevolent acts or natural hazards. Daily rounds sheets are also used by operators in the field as they observe the various assets in the distribution system. Unusual activity is reported by the operators to the chain of command listed in the ERP. The ERP document also describes how the SCADA system is used to monitor unusual activity at the water treatment plant and throughout the distribution system.

The Safe Drinking Water Act, Section 1433(b)(3), states that "The emergency response plan shall include actions, procedures, and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals, including the development of alternative source water options, relocation of water intakes, and construction of flood protection barriers."

Observation 8. A Hazard Assessment document is included in the System's ERP document. The Hazard Assessment breaks out specific impacts to the safety and supply of drinking water into

a summary of the impact, the probability of the impact, the vulnerability of the various assets in the System to the impact, and mitigation strategies to avoid the impact.

The Safe Drinking Water Act, Section 1433(b)(2), states that "The emergency response plan shall include plans and procedures that can be implemented, and identification of equipment that can be utilized, in the event of a malevolent act or natural hazard that threatens the ability of the community water system to deliver safe drinking water."

Observation 9. A chain of command is included in the ERP which states what System representatives need to be contacted to respond to a malevolent act or natural hazard at one of the treatment plants or in the distribution system. Additionally, responses to specific threats such as terrorist attacks or damage called by natural hazards (tornadoes, earthquakes, ice storms, drought) are outlined in the ERP document.

The Safe Drinking Water Act, Section 1433(c), Coordination, states that "Community water systems shall, to the extent possible, coordinate with existing local emergency planning committees established pursuant to the Emergency Planning and Community Right-To-Know Act of 1986 (42 U.S.C. 11001 et seq.) when preparing or revising an assessment or emergency response plan under this section."

Observation 10. An emergency notification list is included in the ERP document. The list identifies specific emergency personnel to contact in the event of a malevolent act or natural disaster. The list includes the City Manager, the local fire department, the police department, and the community's public information office. System representatives explained that they had to coordinate with the local fire department to shut off meters during the ice storm that occurred in February 2021 as well as the police department to respond to calls regarding water line breaks and leaks.

The Safe Drinking Water Act, Section 1433(b)(1), states that "The emergency response plan shall include strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system."

Observation 11. Strategies to improve the resilience of the system in terms of physical and cybersecurity were addressed in the ERP document. Strategies to improve physical security included increased security measures such as lighting, fences, cameras, and locks. Strategies to improve cybersecurity included an enhanced SCADA system security software to help prevent an attack on system controls.

The following observations pertain to the field assets that were observed during the walkthrough component of the review.

Observation 12. There was no buoy or marker to identify where the intake point was in the river, and the Water Production Manager stated that the buoy had washed away in a recent storm (refer to Appendix 2, Photograph 3). He said that they were in the process of replacing the buoy.

Observation 13. An overflow pipe extended off the top of the backwash water storage tank, and it was unclear if the pipe was screened (refer to Appendix 2, Photograph 5).

Observation 14. There was drainage on the floor in the caustic soda, poly-orthophosphate, and coagulant chemical storage room surrounding the storage and day tanks at the WTP, and System representatives stated that the drainage led to an onsite backwash product pond (refer to Appendix 2, Photographs 9 and 10). It is unclear if this presents a concern for the plant's National Pollutant Discharge Elimination System-permitted (NPDES-permitted) discharge.

Observation 15. There were bulking, floating solids at the surface of the flocculation chamber associated with Sedimentation Basin No. 6 at the WTP, and some at the surface of the attached sedimentation basin (refer to Appendix 2, Photographs 21 and 22). System representatives stated that this occurred frequently in the summer.

Observation 16. [redacted]
The inside of the hatchway did not contain drainage, and the lid was flush with the top of the tank (refer to Appendix 2, Photograph 30). If water were to get inside of the lid, it appeared that it would pool over the hatch and possibly get into the clear well.

Observation 17. The air relief vents on the surface of the clear well were covered with mesh screens, but there were some holes in the screens (refer to Appendix 2, Photograph 31). Additionally, the screens were not securely fastened to the vent openings in some places (refer to Appendix 2, Photograph 32).

Observation 18. Pump No. 4 at the Music Mountain Pump Station was experiencing some metal loss on the bolts and flange, and the surface of the metal was wet (refer to Appendix 2, Photographs 39 and 40). Additionally, there were multiple threaded hose taps extending off of the pumps that did not contain backflow prevention (refer to Appendix 2, Photographs 41 and 42).

Observation 19. There was a mesh screen under the flapper valve covering the end of the overflow pipe of the Music Mountain Water Storage Tank, but it was not intact (refer to Appendix 2, Photograph 45). The overflow pipe terminated over a concrete pad, but it did not appear to be two pipe diameters above the pad (refer to Appendix 2, Photograph 46). Additionally, there were plants growing against the back wall of the tank and System representatives stated that the mowing crews had not been mowing behind the tank (refer to Appendix 2, Photograph 47).

Section IV – CLOSING CONFERENCE

On June 28, 2023, the EPA Inspector met with the Water Production Manager and the Water Production Superintendent for a closing conference at approximately 2:00 p.m. Jake Okun reviewed observations with the System representative and explained that all observations were preliminary and did not constitute any formal compliance determination.

Section V – FOLLOW UP

No additional information was received by EPA after exiting the Facility on June 28, 2023.

Section VI – LIST OF APPENDICES

Appendix 1 – Safe Drinking Water Act (SDWA) Sections 1433(a) and (b) Checklist
Appendix 2 – Photograph Log

Appendix 2

Photograph Log

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 1. Perimeter Fence, Ouachita WTP View of a security sign posted on the perimeter fence of the Ouachita WTP displaying the name of the System as well as “No Trespassing.”

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 2. Perimeter Fence, Ouachita WTP View of the locked barbed wire fence surrounding the Ouachita WTP displaying an additional security sign reading “No Trespassing.”

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

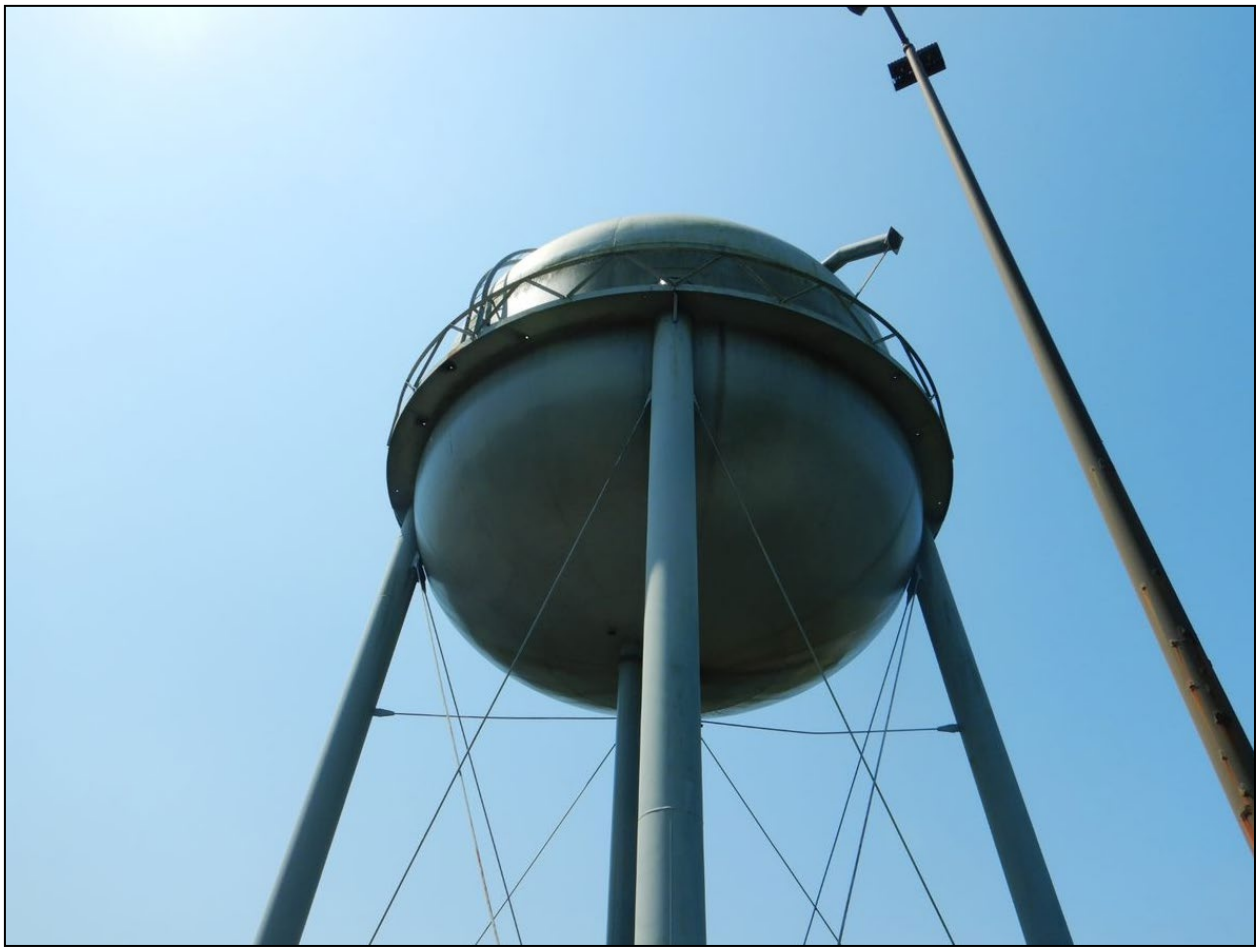
Photograph 3. Raw Water Intake View of the raw water pump station containing five pumps, as well as the raw water intake point in the Ouachita River. There was no buoy representing the intake point, and System representatives stated that the buoy had been washed away during a recent storm.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas



Photograph 4. Backwash Water Storage Tank View of the 100,000-gallon backwash storage tank that holds finished water until it is needed for a backwash cycle.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 5. Backwash Water Storage Tank Close-up view of the overflow pipe extending out of the top of the backwash storage tank. It was unclear if the opening was screened or not.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 6. Concrete Splash Pad, Backwash Storage Tank View of the concrete pad that was positioned below the terminus of the overflow pipe that extended off of the backwash storage tank. The pad appeared to be worn in the area closest to the tank

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 7

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 7. Chemical Storage Room, Ouachita WTP View the two poly-orthophosphate day tanks that were present inside of the caustic soda, poly-orthophosphate, and coagulant chemical storage room.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 8

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 8. Chemical Storage Room, Ouachita WTP View the coagulant storage tank that was present inside of the caustic soda, poly-orthophosphate, and coagulant chemical storage room.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 9

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 9. Chemical Storage Room, Ouachita WTP View of the drainage on the floor surrounding the chemical tanks inside of the caustic soda, poly-orthophosphate, and coagulant chemical storage room. System representatives stated that the drain led to an onsite backwash product pond. It is unknown if this presents a concern with the plant's NPDES discharge.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 10

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 10. Chemical Storage Room, Ouachita WTP Additional view of the drainage on the floor surrounding the chemical tanks inside of the caustic soda, poly-orthophosphate, and coagulant chemical storage room. System representatives stated that the drain led to an onsite backwash product pond. It is unknown if this presents a concern with the plant's NPDES discharge.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 11

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 11. Potable Water Lines, Chemical Storage Room, Ouachita WTP View of the potable water lines used to inject carry water for chemical addition in the caustic soda, poly-orthophosphate, and coagulant chemical storage room. These individual lines did not contain backflow prevention, but System representatives stated that an RPZ outside the building created backflow prevention for this entire building.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 12

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 12. Potable Water Line, Chemical Storage Room, Ouachita WTP View of a potable water line with a threaded hose tap in the caustic soda, poly-orthophosphate, and coagulant chemical storage room. This line did not contain backflow prevention, but System representatives stated that an RPZ outside the building created backflow prevention for this entire building.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 13

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 13. RPZ Vaults, Ouachita WTP View of the two RPZ vaults containing RPZs outside of the chemical storage rooms. The RPZs are used to create backflow prevention.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 14

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

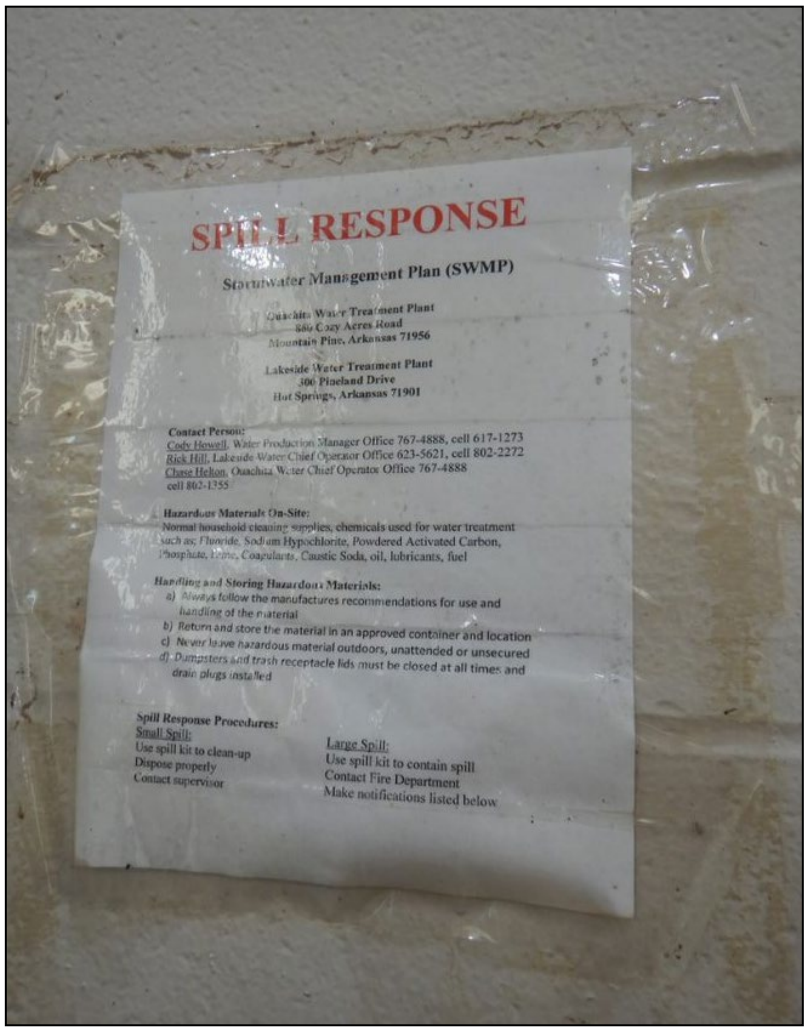
Photograph 14. Chemical Storage Room, Ouachita WTP View of a chemical spill kit that was present in the caustic soda, poly-orthophosphate, and coagulant chemical storage room.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 15

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas



Photograph 15. Chemical Storage Room, Ouachita WTP View of a chemical spill response SOP that was posted above the spill kit in the caustic soda, poly-orthophosphate, and coagulant chemical storage room.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 16

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 16. Rapid Mixer, Ouachita WTP View of one of the two rapid mixers at the Ouachita WTP. Only one mixer was in use during the inspection, and System representatives stated that only one was needed for adequate mixing.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 17

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 17. Chemical Feed Lines, Ouachita WTP View of the chemical injection lines used at the rapid mix chamber at the Ouachita WTP. System representatives stated that this was where coagulant was injected.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 18

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 18. Sedimentation Basin Nos. 1-3, Ouachita WTP View of Sedimentation Basin Nos. 1-3. Not pictured are Basin Nos. 4 and 5, which are also clustered in this area.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 19

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 19. Sedimentation Basin Nos. 6 and 7, Ouachita WTP View of Sedimentation Basin Nos. 6 and 7, which are clustered in a separate area from Basin Nos. 1-5.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 20

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 20. Flocculation Chamber, Sedimentation Basin No. 6 View of the flocculation chamber associated with Sedimentation Basin No. 6. A slow mix was occurring in the chamber to try to generate floc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 21

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 21. Floating Solids, Flocculation Chamber View of floating, bulking solids that were floating on surface of the flocculation chamber for Sedimentation Basin No. 6. System representatives stated that this was a common challenge in the summer.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 22

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

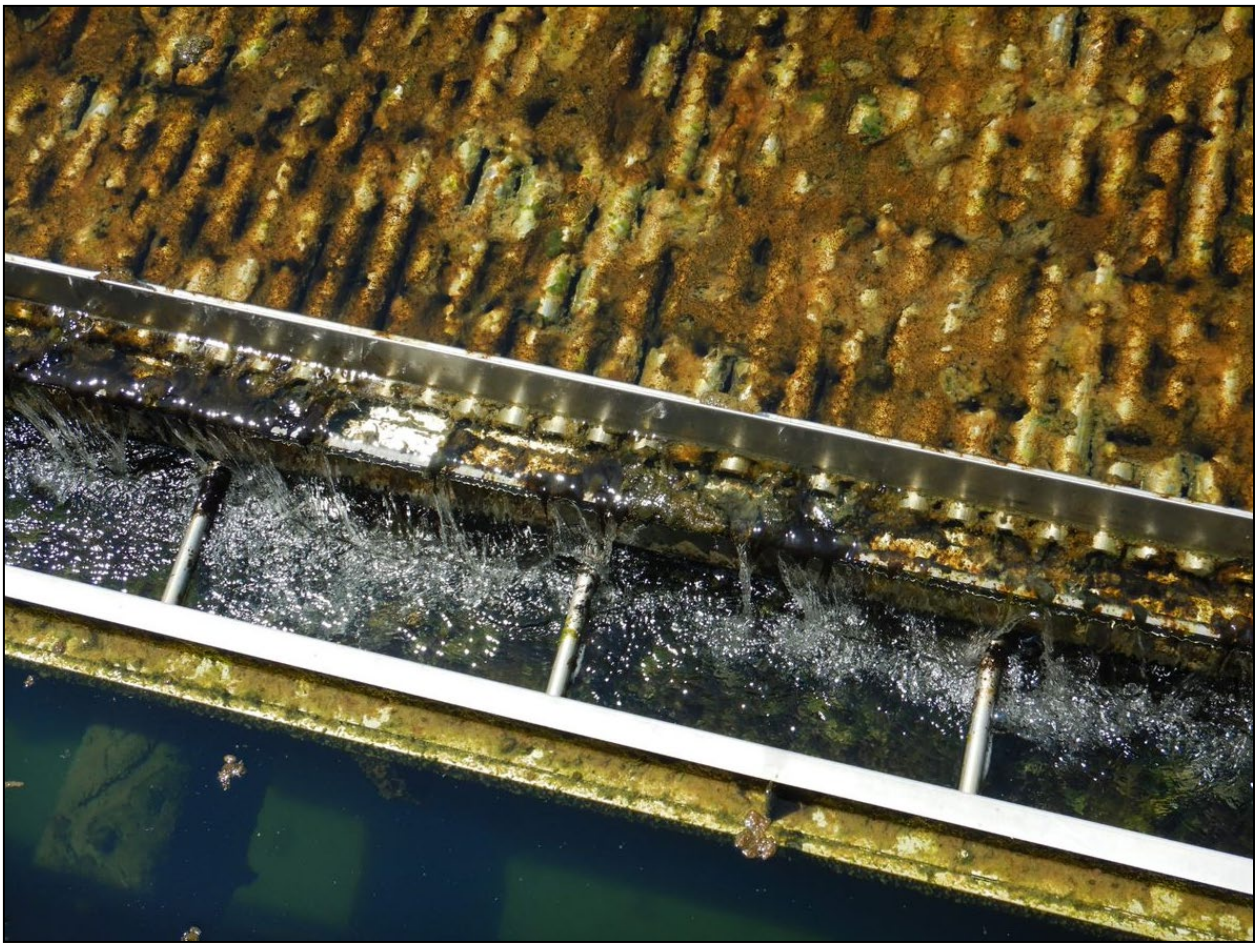
Photograph 22. Sedimentation Basin No. 6 View of floating, bulking solids at the surface of Sedimentation Basin No. 6. System representatives stated that this was a common challenge in the summer.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 23

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas



Photograph 23. Weirs, Sedimentation Basin No. 6 Close up view of the weirs at the end of Sedimentation Basin No. 6. There was algae growing in the weirs that was causing some short circuiting.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 24

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 24. Filter No. 2, Ouachita WTP View of Filter No. 2 at the Ouachita WTP. There are nine total filters at the WTP, and each contains a level transducer which determines when a backwash cycle should occur.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 25

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 25. Sodium Hydroxide Storage Room, Ouachita WTP View of the two, sodium hydroxide storage tanks at the Ouachita WTP. There were electronic level indicators present next to each of the tanks.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 26

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 26. Combined Filter Effluent Turbidimeter View of the combined filter effluent turbidimeter that was present inside of the sodium hydroxide storage room. The turbidimeter was reading 0.024 NTU at 12:34 p.m., and System representatives stated that this reading came from a common effluent line extending from the filters.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 27

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 27. Clear Well #3, Ouachita WTP View of the 2,000,000gallon Clear Well #3 that was present onsite at the Ouachita WTP. Also visible in this image are the four, high service pumps that send treated water into the distribution system.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 28

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 28. Hatchway, Clear Well #3 View of the elevated hatchway leading to Clear Well #3 that was covered by a loose-fitting, shoebox style lid.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 29

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

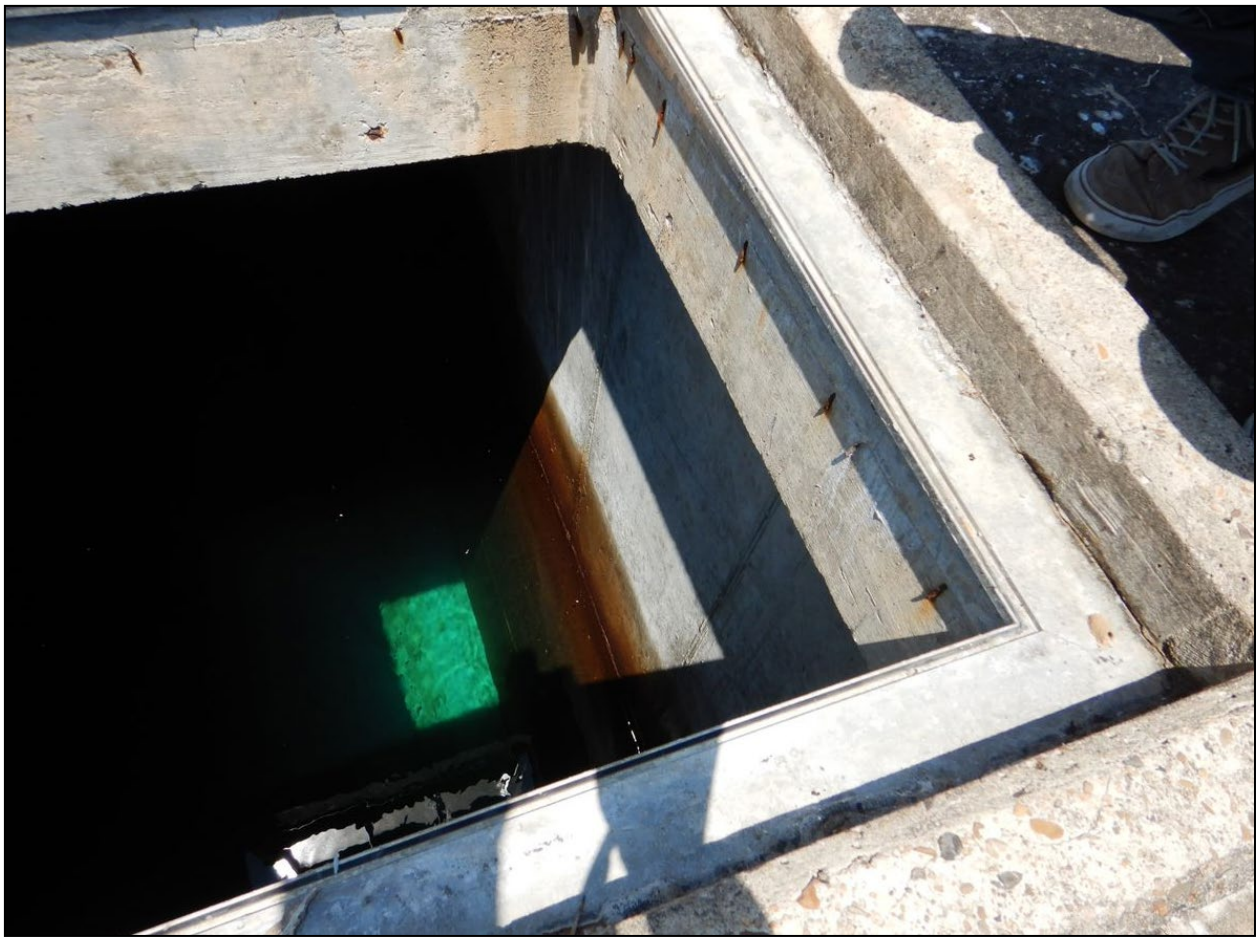
Photograph 29. Shoebox Lid, Clear Well #3 Hatchway Close up view of the seam of the shoebox lid covering the elevated hatchway leading to Clear Well #3. There was a crack in the seam that would allow rainwater to get through.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 30

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas



Photograph 30. Hatchway, Clear Well #3 View the inside of the elevated hatchway leading to Clear Well #3. The inside of the hatchway did not contain drainage, and the lid was flush with the top of the tank. If water were to get inside of the lid, it appeared that it would pool over the hatch and possibly get into the clear well.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 31

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 31. Air Vent, Clear Well #3 View of the mesh screen covering the opening top one of the air vents on top of Clear Well #3. The screen was ripped and had holes.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 32

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 32. Air Vent, Clear Well #3 Side view of a mesh screen covering the opening top one of the air vents on top of Clear Well #3. The screen was not securely fastened to the opening, creating a large hole.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 33

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 33. Overflow Pipe, Clear Well #3 View the end of the overflow pipe that extended from Clear Well #3 and terminated below grade under a manhole. A flapper was covering the end of the pipe and it had a tight seal.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 34

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 34. High Service Pumps, Ouachita WTP View of the four high service pumps that are used to pump finished water from Clear Well #3 into the distribution system. Pump No. 2 was offline during the inspection because the motor was being repaired.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 35

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 35. Pump No. 2 Motor View of the high service Pump No. 2 motor was sitting on the ground next to the other pumps because it was under repair.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 36

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 36. Mounted Generator, Ouachita WTP View of the mounted 2.0 MW backup generator at the Ouachita WTP. The Water Production Manager stated that the generator could handle the full load of the WTP in the event of a power outage, and that the generator would turn on automatically.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 37

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 37. Perimeter Fence, Music Mountain Property View of the perimeter fence that contained barbed wire surrounding the Music Mountain property. The fence was locked when the EPA Inspector arrived.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 38

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 38. Music Mountain Pump Station View of a newly replaced pump inside of the Music Mountain Pump Station.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 39

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 39. Pump No. 4, Music Mountain Pump Station View of the metal loss/corrosion that was taking place on the bolts and flange of Pump No. 4. The metal also appeared to be wet.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 40

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 40. Pump No. 4, Music Mountain Pump Station Close up view of the metal loss/corrosion that was taking place on the bolts and flange of Pump No. 4. The metal also appeared to be wet.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 41

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 41. Threaded Hose Tap, Music Mountain Pump Station View of a threaded hose tap without backflow prevention that was extending off of a pump in the Music Mountain Pump Station.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 42

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 42. Threaded Hose Tap, Music Mountain Pump Station Additional view of a threaded hose tap without backflow prevention that was extending off of a pump in the Music Mountain Pump Station.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 43

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 43. Backup Generator, Music Mountain Pump Station View of an emergency backup generator that was present outside of the Music Mountain Pump Station. The Water Production Manager stated that it would turn on automatically in the event of a power outage.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 44

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 44. Overflow Pipe, Music Mountain Water Storage Tank View of the overflow pipe that extended from the tank. The opening was covered by a flapper with a tight seal.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 45

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 45. Overflow Pipe, Music Mountain Water Storage Tank View of the inside of the overflow pipe that extended from the tank. The mesh screen under the flapper was ripped and had a large hole.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 46

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 46. Overflow Pipe, Music Mountain Water Storage Tank View of the end of the overflow pipe extending from the Music Mountain Water Storage Tank. The pipe terminated over a concrete splash pad, but it was not two pipe diameters above the pad.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 47

Location: Hot Springs Utilities Public Water System		
City: Hot Springs	County/Parish: Garland County	State: Arkansas

Photograph 47. Music Mountain Water Storage Tank View of the back of the Music Mountain Water Storage Tank. There were plants growing against the back wall of the tank and System representatives stated that the mowing crews had not been mowing behind the tank.