UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGIONAL ADMINISTRATOR
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

ELECTRONIC MAIL
DELIVERY RECEIPT REQUESTED

The Honorable Curtis McCall, Sr.
Mayor of Cahokia Heights
103 Main Street
Cahokia, Illinois 62206

Justin Ladner
President, Illinois American Water Company – ESL
300 North Waterworks Drive
Belleville, Illinois 62223

Re: Unilateral Administrative Order under Section 1431(a) of the Safe Drinking Water Act, 42 U.S.C. § 300i(a)
Public Water Systems: Commonfields of Cahokia Public Water District, Illinois American Water Company, Village of Cahokia Public Water Supply
PWS ID Numbers: IL1635030, IL1635040, IL630200

Dear Messrs. McCall and Ladner:

Enclosed is a Unilateral Administrative Order ("Order") issued by the U.S. Environmental Protection Agency to the City of Cahokia Heights ("City"), Commonfields of Cahokia Public Water District ("CC PWD"), Village of Cahokia Public Water System ("VC PWS"), and Illinois American Water Company PWS ("IAW PWS") (collectively, the "Respondents"), pursuant to Section 1431(a) of the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300i(a).

As of the date of the Order, EPA has no information showing bacteria is currently present in Respondents' public water systems (PWSs); however, based on the occurrence of sanitary sewer overflows and the lack of water quality monitoring within those areas, combined with the significant deficiencies identified by EPA as a result of the SDWA inspection conducted the week of April 26, 2021, EPA has determined that conditions exist at the PWSs located in the City that may present an imminent and substantial endangerment to the persons in the City served by the PWSs. The PWSs located in the City have the potential to experience a loss of system pressure, which could result in backsiphoning conditions, drawing contaminated water

into the drinking water piping and increasing the risk that *E. coli* or other disease-causing organisms will be introduced into the PWSs and delivered to City drinking water customers.

Pursuant to Section 1431(a) of the SDWA, 42 U.S.C. § 300i(a), EPA is authorized to take actions, including issuing orders necessary to protect human health. The Order and its requirements are necessary to ensure adequate protection of public health.

The enclosed Order sets forth the actions that must be taken to ensure that the people served by the PWSs located in the City are provided with safe drinking water. The Order requires the Respondents to, among other things: (1) install real time pressure monitors in areas co-located with sanitary sewer overflows; (2) begin additional bacteriological monitoring in those areas; (3) provide an alternative source of drinking water under certain conditions; and (4) provide a schedule for EPA's approval to correct the identified significant deficiencies.

Under SDWA Section 1431(a), 42 U.S.C. § 300i(a), this Order shall be effective immediately. The Order constitutes a final agency action, and under Section 1448(a) of the SDWA, 42 U.S.C. § 300j-7(a), Respondents may seek federal judicial review. If you have any questions or wish to discuss this Order, please contact James Adamiec at (312) 886-0815 or adamiec.james@epa.gov. For legal inquiries, please have your attorneys contact Jacqueline Clark, Associate Regional Counsel, at (312) 353-4191 or clark.jacqueline@epa.gov or Gillian Asque, Associate Regional Counsel, at (312) 886-3283 or asque.gillian@epa.gov.

Thank you for your attention to this matter.

Sincerely,

CHERYL NEWTON

Digitally signed by CHERYL NEWTON
Date: 2021.08.02 19:28:01 -05'00'

Cheryl L. Newton
Acting Regional Administrator

Enclosure

Cc: Lyn Branson Matchingtouch, Director, Cahokia Heights Water and Sewer
Dennis Trateur, General Manager, Cahokia Heights Water and Sewer Mark Scoggins, Crowder & Scoggins, Ltd.
Kenneth C. Jones, Vice President and General Counsel, American Water Midwest Division
Michael Brown, Illinois EPA

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 West Jackson Boulevard
Chicago, IL 60604

IN THE MATTER OF:	)	
	)	
Commonfields of Cahokia Public Water District,	)	UNILATERAL ADMINISTRATIVE ORDER
Public Water Supply, PWS ID IL1635030;	)	
	)	
Illinois American Water Company,	)	Proceeding under Section 1431(a)
Public Water Supply, PWS ID IL1635040;	)	of the Safe Drinking Water Act,
	)	42 U.S.C. § 300i(a)
Village of Cahokia Public Water Supply,	)	
Public Water Supply, PWS ID IL630200	)	
	)	
AND	)	
	)	
The City of Cahokia Heights	)	
	)	
Respondents.	)	
	)	

I. STATUTORY AUTHORITY

1. This Unilateral Administrative Order ("Order") is issued pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency ("EPA") by Section 1431(a) of the Safe Drinking Water Act ("SDWA" or "the Act"), 42 U.S.C. § 300i(a). This Order is issued for the purpose of protecting the health of persons who are supplied drinking water by three public water systems with conditions that may present an imminent and substantial endangerment to human health.

2. EPA may issue an Order under Section 1431(a) of the Act, 42 U.S.C. § 300i(a), upon receipt of information that a contaminant is present in or is likely to enter a public water system or an underground source of drinking water which may present an imminent and substantial endangerment to the health of persons, and appropriate state and local authorities have not acted, or do not have the authority to act, to protect the health of such persons.

3. The authority to issue this Order was delegated to the Regional Administrators by Delegation No. 9-17.

II. DEFINITIONS

4. All terms not otherwise defined herein shall have their ordinary meaning unless defined in SDWA or its implementing regulations, in which case the statutory and regulatory definition shall control.

5. "Alternate drinking water supply" shall mean: water from a source acceptable to EPA that meets the water quality requirements of 40 Code of Federal Regulation ("C.F.R.") Part 141; is in sufficient quantity for drinking and cooking; and is provided in a manner convenient to the users.

6. "Contaminant" means "any physical, chemical, biological, or radiological substance or matter in water." See 42 U.S.C. § 300f(6).

7. "Day" means calendar day.

8. "IEPA" shall mean the Illinois Environmental Protection Agency.

9. "NEIC" shall mean EPA's National Enforcement Investigations Center.

10. "Order" shall mean this SDWA § 1431 Administrative Order, any attachments or appendices to this Order, and all documents that are to be produced or submitted pursuant to this Order. All attachments or appendices to this Order, and all documents that are to be produced or submitted pursuant to this Order are, after being approved by EPA, incorporated into this Order, and shall be enforceable hereunder.

11. A "public water system," ("PWS"), provides piped drinking water for human consumption to persons within the meaning of Section 1401(4) of the SDWA, 42 U.S.C. §300f(4) and 40 C.F.R. § 141.2.

12. "Respondents" shall mean the Commonfields of Cahokia Public Water District, the Illinois American Water Company, the Village of Cahokia Public Water Supply, and the City of Cahokia Heights.

13. "Sanitary Sewer System" means all portions of the City of Cahokia Heights's sewer system (including all pipes, force mains, gravity sewer segments, overflow structures, regulators, pump stations, lift stations, manholes, and components thereof), designed and constructed to collect and convey only sewage, and not storm water, from residences, commercial buildings, industrial plants, and institutions for treatment at a regional wastewater treatment plant.

14. "Sanitary Sewer Overflow" or "SSO" shall mean any discharge from the City of Cahokia Heights' sanitary sewer system prior to reaching a wastewater treatment plant.

III. FINDINGS OF FACT AND CONCLUSIONS OF LAW

15. The Commonfields of Cahokia Public Water District ("CC PWD") is a "person" within the meaning of Section 1401(12) of the SDWA, 42 U.S.C. § 300f(12).

16. The CC PWD is a PWS within the meaning of Section 1401(4) of SDWA, 42 U.S.C. § 300f(4), and 40 C.F.R. § 141.2, and, therefore, is subject to the requirements of the Act and the National Primary Drinking Water Regulations ("NPDWR") at 40 C.F.R. Part 141.

17. The CC PWD regularly serves at least 25 year-round residents and serves at least 15 service connections used by year-round residents of the area served by the system and is therefore a "community water system" within the meaning of Section 1401(15) of SDWA, 42 U.S.C. § 300f(5), and 40 C.F.R. § 141.2

18. Upon information and belief, the City of Cahokia Heights ("City") is the owner of the CC PWD and is located at 103 Main Street, Cahokia Heights, Illinois.

19. CC PWD is the operator of the CC PWD with the PWS ID No. IL1635030, and is located at 2525 Mousette Lane, City of Cahokia Heights, Illinois.

20. The CC PWD provides piped drinking water for human consumption and serves approximately 4,078 direct metered connections, 1,570 consecutive system connections and approximately 14,289 persons.

21. Illinois American Water Company ("IAW") is a "person" within the meaning of Section 1401(12) of the SDWA, 42 U.S.C. § 300f(12).

22. The IAW Public Water System ("IAW PWS") is a PWS within the meaning of Section 1401(4) of SDWA, 42 U.S.C. § 300f(4), and 40 C.F.R. § 141.2, and, therefore, is subject to the requirements of the Act and the NPDWR at 40 C.F.R. Part 141.

23. The IAW PWS regularly serves at least 25 year-round residents and serves at least 15 service connections used by year-round residents of the area served by the system and is therefore a "community water system" within the meaning of Section 1401(15) of SDWA, 42 U.S.C. § 300f(5), and 40 C.F.R. § 141.2.

24. IAW is the owner and operator of the IAW PWS with the PWS ID No. IL1635040 and is located at 300 N. Waterworks Dr., Belleview, Illinois.

25. The IAW PWS provides piped drinking water for human consumption and serves approximately 51,452 direct metered connections and approximately 259,037 persons.

26. The Village of Cahokia Public Water System ("VC PWS") is a "person" within the meaning of Section 1401(12) of the SDWA, 42 U.S.C. § 300f(12).

27. The VC PWS is a PWS within the meaning of Section 1401(4) of SDWA, 42 U.S.C. § 300f(4), and 40 C.F.R. § 141.2, and, therefore, is subject to the requirements of the Act and the NPDWR at 40 C.F.R. Part 141.

28. The VC PWS regularly serves at least 25 year-round residents and serves at least 15 service connections used by year-round residents of the area served by the system, and is therefore a "community water system" within the meaning of Section 1401(15) of SDWA, 42 U.S.C. § 300f(5), and 40 C.F.R. § 141.2.

29. Upon information and belief, the City is the owner of VC PWS and is located at 103 Main Street, Cahokia Heights, Illinois.

30. VC PWS is the operator of the VC PWS with the PWS ID No. IL630200, and is located at 900 Upper Cahokia Road, City of Cahokia Heights, Illinois.

31. The VC PWS serves approximately 1,400 direct metered connections and approximately 3,640 persons.

32. The City represents that it was created via merger on May 6, 2021 when the Village of Cahokia, the Village of Alorton, and the City of Centreville merged to form the City of Cahokia Heights. The merger agreement contemplates the eventual dissolution of the CC PWD and the VC PWS.

33. The IAW PWS is solely supplied by the Mississippi River as a surface water source.

34. The CC PWD is a consecutive system that directly purchases water treated by the IAW PWS.

35. The VC PWS is a consecutive system that purchases water treated by the IAW PWS after it passes through the CC PWD.

36. Pursuant to SDWA Section 1413, 42 U.S.C. § 300g-2, IEPA has primary responsibility for the implementation and enforcement of the PWS program in Illinois.

37. Pursuant to 40 C.F.R. § 142.16(b)(3)(i), as the primacy agency, IEPA conducts required sanitary surveys of PWSs in Illinois.

38. A sanitary survey is an onsite review of the water source (identifying sources of contamination using results of source water assessments where available), facilities, equipment, operation, maintenance, and monitoring compliance of a PWS to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water. 40 C.F.R. § 142.16(b)(3)(i).

39. The IEPA's last three sanitary surveys of the IAW PWS, beginning in March 2014, identified technical and managerial deficiencies, including an inadequate system storage capacity deficiency.

40. The IAW PWS corrected some deficiencies but has not corrected the inadequate system storage capacity deficiency identified in Paragraph 39, above.

41. The IEPA's last three sanitary surveys of the CC PWD, beginning in March 2014, identified the following deficiencies: inadequate funding for emergency repairs, inability to completely fill storage tanks, inadequate storage capacity of finished water, deteriorating infrastructure, and lack of general maintenance.

42. The CC PWD has not yet corrected the deficiencies listed in Paragraph 41, above.

43. The IEPA's last two sanitary surveys of the VC PWS, beginning in April 2016, identified the system's inadequate plans to replace aging infrastructure as a deficiency.

44. The VC PWS has not yet corrected the deficiency identified in Paragraph 43, above.

45. Since at least 2010, residents have made numerous complaints to appropriate local and state officials about chronic dry and wet weather SSO issues in the City.

46. Components of the IAW PWS, VC PWS, and CC PWD distribution systems are co-located where the chronic SSO events are occurring in the City.

47. Between 2018 and June 2021, the IAW PWS had at least 23 water main breaks in the area of the City that experiences chronic SSO events.

48. On February 26, 2021, citizens' advocate groups provided EPA the following information from residents who live in the City:

a. One resident has reported that a broken water line near his house went unrepaired for about five years;
b. Residents also report a black sludge substance that comes out of their faucets;
c. Residents report sewage smells that appear to come from their faucets, not the drains;
d. Residents' pets also have refused to drink the tap water; and
e. One resident has had bacterial infections that the resident attributes to the drinking water.

49. On April 30, 2021, EPA sent CC PWD a notice of potential violations under the Clean Water Act, 33 U.S.C. § 1251 *et seq*., for noncompliance associated with its wastewater system. These Clean Water Act violations included chronic dry and wet-weather overflows, lack of consistent SSO monitoring and reporting to EPA and IEPA, lack of appropriate utility staffing to properly operate and maintain sewer systems, and poor operation and maintenance of the sewer system.

50. Between April 26-30, 2021, NEIC, Region 5, and the IEPA conducted a SDWA Section 1445, 42 U.S.C. § 300j-4(a), inspection of the CC PWD, the VC PWS and the IAW PWS ("April 2021 investigation"). The April 2021 investigation assessed the three systems' compliance with the SDWA, including regulations found in 40 C.F.R. Part 141 and focused on the systems' operation and maintenance.

51. NEIC's investigation report regarding the April 2021 investigation contained observations of, among other things, the following: critical unresolved maintenance issues in the CC PWD; lack of a capital improvement plan in the CC PWD; potential ineffective disinfection treatment application in the CC PWD; inadequate staffing in the CC PWD and VC PWS; and maintenance issues in the IAW PWS.

52. Many of the observations from the April 2021 investigation are consistent with deficiencies identified by IEPA in previous sanitary surveys for the CC PWD, specifically: the inability to completely fill storage tanks, inadequate storage capacity of finished water, deteriorating infrastructure, and lack of general maintenance.

53. Maintenance, disinfection, and staffing issues are important to the quality of a PWS as they have a direct impact on the short and long term quality of drinking water through proper chemical application, assurance of qualified staff to respond to emergencies in a timely manner and the overall care of the drinking water delivery infrastructure.

54. EPA Region 5 has determined that the observations in NEIC's April 2021 investigation report meet the definition of significant deficiencies pursuant to 40 C.F.R. § 141.723 and require correction.

55. Significant deficiencies in Respondents' PWSs include, but are not limited to, the following:

a. At the CC PWD, a 1.5-MG ground-level storage tank found to be out of service since 1993 and in a state of disrepair with no plans for repair or rehabilitation.
b. At the CC PWD, storage in a 0.5-MG elevated storage tank has been limited to 1/3 capacity at approximately 150,000 gallons due to pumping issues that have existed since 2000. The tank has extensive rust, which should be evaluated for potential structural impacts, lack of cathodic protection, and need for painting.
c. At the CC PWD, a second 0.5-MG elevated storage tank had no screen on the overflow outlet; the overflow pipe support weld was broken; trees were growing under the foundation for the inlet/outlet pipe; the structure has rust patches; and there is a pile of debris under the tank. Several sections of the fencing were no longer intact and trespassers could access the tank.
d. While the CC PWD flushes the distribution system as needed, it was reported that it did not flush the entire distribution system in conjunction with the IAW PWS's free-chlorine burn in 2020.

e. Two 150-pound chlorine gas cylinders were found unsecured in a storage building at the CC PWD Falling Springs booster station. It was reported they have been there since 1993 or earlier.
f. A water main repair in the CC PWD had been completed in front of Cahokia High School leaving an open pit, and at the time of the inspection the dirt had not been filled in, allowing for water system tampering and potentially allowing standing water (sewage or otherwise) to collect in the open pit.
g. An open pit in the IAW PWS distribution system was found to contain water that smelled of sewage. Maintenance crews must take portable pumps to a nearby sewage lift station that serves this area multiple times each week because the lift station pump is broken.
h. When asked how CC PWD maintenance assignments are tasked to the maintenance staff, the operator stated that there is no documentation for routing maintenance tasks such as preventative pump tune-ups and stated that the maintenance staff "do as they want."
i. The CC PWD lacks a capital improvement plan.
j. The CC PWD adds booster chlorine without ammonia during the warmest months, potentially impacting the effectiveness of the chloramine disinfectant that has already been applied. This practice also has the potential to impact disinfectant effectiveness in the VC PWS because it purchases water from the CC PWD.
k. Many maintenance items at the CC PWD have languished uncompleted for years, and the five CC PWD maintenance staff have unclear responsibilities and work infrequently on PWS maintenance items. None of the current maintenance staff have a commercial driver's license, which limits their ability to conduct repairs. All water sample collection is conducted by one staff person, with no backup personnel trained for this task.
l. The VC PWS employs only two maintenance personnel who have unclear responsibilities and work infrequently on PWS maintenance items.
m. Maintenance issues exist at the IAW PWS including inoperative monitoring equipment and flaking paint at an intake building that can lead to rust and degredation of equipment.

56. The IAW PWS's total coliform sampling sites that are required by the Revised Total Coliform Rule ("RTCR"), 40 C.F.R. Part 141, Subpart Y, historically have not been located near areas of its distribution system in the City where numerous water main breaks have occurred and where chronic SSOs are occurring. Following the April 2021 investigation, the IAW PWS installed one new sampling site in the area of its distribution system in the City where chronic SSOs are occurring.

57. Because the IAW PWS collects RTCR samples from only one sampling site that is co-located near the area of its distribution system in the City where chronic SSOs are occuring, the IAW PWS's RTCR sample siting plan may not be representative of all water in its distribution system.

58. The CC PWD and VC PWS's total coliform sampling sites that are required by the RTCR, 40 C.F.R. Part 141, Subpart Y, are primarily located at commercial locations that are located outside the areas of their distribution systems where chronic SSOs are occurring.

59. Because the CC PWD and VC PWS collect RTCR samples at primarily commercial sampling sites and not at residential sampling sites that are co-located in the area of their distribution systems where chronic SSOs are occuring, the CC PWD and VC PWS's RTCR sample siting plans may not be representative of all water in their distribution systems.

60. Low pressure and loss of pressure in a drinking water distribution system may cause a net movement of water from outside the pipe to the inside of the pipe through water main or line cracks, water main or line breaks, or loose joints in the distribution system. Backsiphonage occurs when pressure is lost in pipes, creating a negative pressure and a partial vacuum, which pulls water from a contaminated source outside the pipe into the treated, potable water inside the pipe. Such system failures carry a high potential for fecal contamination, like *E. coli*, or other disease-causing organisms to enter a water distribution system downstream of the treatment plant, which then gets delivered to users. Intrusion of microbial contaminants is of greater concern because even with dilution, some microbes (e.g. viruses) can cause an infection with a single organism. In saturated soil conditions, microbes can move several meters in a short period of time. When these conditions are present, there is an increased risk of infection when low pressure or pressure transient conditions exist in portions of a distribution system where known sewer overflows and deteriorated sewer infrastructure exist.

61. Because components of Respondents' distribution systems are co-located where SSO events chronically occur in the City, a loss of distribution system pressure near a location where SSO events occur can lead to sewage intrusion of Respondents' PWSs.

62. Total coliforms bacteria are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria, like *E. coli*, may be present. Appendix A to Subpart O of 40 C.F.R. Part 141.

63. *E. coli* are bacteria whose presence indicates that water may have been contaminated with human and animal wastes. Human waste is known to contain pathogens. Pathogens can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. Pathogens may also pose greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. Appendix A to Subpart O of 40 C.F.R. Part 141.

64. *E. coli* is a species of fecal coliform bacteria and is listed as an acute contaminant at 40 C.F.R. § 141.63(b).

65. Fecal coliform bacteria, such as *E. Coli*, are "contaminants" within the meaning of Section 1401(6) of the SDWA, 42 U.S.C. § 300f(6).

66. On July 22, 2021, IEPA conducted a Sanitary Survey of the IAW PWS.

67. As of the Effective Date of this Order, EPA and IEPA have no information showing bacteria is currently present in Respondents' drinking water distribution systems; however, the combined issues identified in this Section, Findings of Fact and Conclusions of Law, and

specifically in Paragraphs 40, 42, 44, 45, 46, 47, 48, 49, 51, 52, 55, 57, 59, and 61 indicate an increased likelihood that acute contaminants can potentially enter the Respondents' PWSs.

68. Both EPA and IEPA are currently involved in efforts to ensure compliance with applicable wastewater and drinking water standards in the City. While IEPA has acted to identify deficiencies during sanitary surveys conducted at the systems, EPA has determined that additional EPA actions are needed to support State actions in order to ensure public health is protected.

69. EPA consulted with the City, CC PWD, VC PWS, IAW PWS, and the IEPA to the extent practicable in light of the potential imminent endangerment, to confirm the correctness of the information on which this Order is based and to ascertain the actions which such authorities were or would be taking.

70. Based on the findings above, and despite actions taken by IEPA, the local authorities have not undertaken all actions necessary to protect public health, and conditions exist at Respondents' PWSs that may present an imminent and substantial endangerment to the health of persons served by Respondents' PWSs.

71. To more effectively allocate workloads between the Agencies, on July 29, 2021, IEPA submitted a written request indicating support for EPA's issuance of this Order.

72. EPA has therefore determined that the actions specified in this Order are necessary to protect the health of persons.

IV. ORDER

Pursuant to the authority given to the EPA Administrator by Section 1431(a)(1) of the SDWA, 42 U.S.C. § 300i(a)(1), and delegated to the Regional Administrators, it is ORDERED:

73. Within 48 hours after receiving this order, each Respondent shall notify EPA in writing whether it intends to comply with this order. Such notification shall be made to James Adamiec at: Adamiec.James@epa.gov.

74. Respondents shall take the following actions:

Monitoring and Inspections:

a. The City shall include IAW as a cc on all electronically reported SSO events to EPA and IEPA.

b. Within 24 hours of each SSO event, and no less than monthly, Respondents shall conduct additional bacterial and residual chlorine monitoring at sites located within the boundaries identified in Attachment C and report the results to EPA and IEPA until September 1, 2022.

c. Respondents shall, within 15 days of the Effective Date of this Order, begin conducting continuous monitoring of the pressure in the distribution systems as depicted in Attachment C. The monitoring must meet the requirements contained in Attachment A.

Low Pressure/Loss of Pressure Events:

d. After the Effective Date of this Order, if any Respondent experiences breaks in water lines or other low pressure or loss of pressure events in a PWS's distribution system, such Respondent shall take the following actions:
   i. Respondent shall consult with IEPA within 24 hours to determine if a boil water notice ("Boil Order") is required and provide notification to EPA within 24 hours of such consultation with IEPA.
   ii. Respondent shall issue a Tier 1 public notice as required by 40 C.F.R. § 141.202 and provide a copy of such public notice to EPA and IEPA.
   iii. Respondent shall immediately repair the line break or cause of the low pressure/loss of pressure. When satisfied that system pressure will be maintained and there is adequate chlorine residual, Respondent shall begin sampling from the affected area as described below. IEPA requires a free chlorine residual of 0.5 mg/1 or a combined chlorine residual of 1.0 mg/l in all active parts of the distribution system.
   iv. Within 24 hours after making repair(s) to the water line(s) as required above, Respondent shall begin collecting special purpose samples (bacteriological and microbial) (defined in 40 C.F.R. § 141.2l(a)(6)) from the PWS's distribution system. The chart, in Attachment B to this Order, lists the number of samples required based on the number of customers affected. If the entire system is placed on a Boil Order, samples should be collected from sites representing the entire water system. Respondent shall ensure that each sample is analyzed for total coliform, *E. coli* (if the sample is total coliform positive), and chlorine residual. Respondent shall continue sampling until results from two consecutive rounds are total coliform negative.

e. For purposes of this Order, low pressure or loss of pressure event includes:
   i. When the water pressure falls below 20 pounds per square inch on any portion of the distribution system for any amount of time.
   ii. Line breaks or other disturbances to the distribution system which result in a loss of pressure, when the at-grade or near at-grade pressure is not greater than zero for any amount of time.
   iii. An event meeting the condition in subparagraph 74.e.i. will not be considered a low pressure event if it can be shown to have occurred during a pressure transient event, as defined in Attachment A, Paragraph 7.

Alternative Water Source Plan Development and Implementation:

f. Within 15 days of the Effective Date of this Order, Respondents shall each develop, and submit to EPA and IEPA for review and to EPA for approval, an Alternative Water Source Plan ("AWSP"). In the AWSP, each Respondent shall detail how and where it will provide at least one gallon of potable water per day, per person to every person

served by its PWS. This allotment of alternative water must be made available at no cost to each person served by the PWS, as needed for drinking, cooking, maintaining oral hygiene, and dish washing. The AWSP will also outline how the Respondent will inform every person served by the PWS of when and how an alternative water source is made available. Respondents shall designate the contact information (e.g. phone number, email address) of Respondents' designated employees or agents for anyone served by the System who may have questions about the availability of the alternate water supply. EPA may provide comments for consideration or changes required for incorporation into the AWSP prior to EPA approval. An EPA approvable AWSP must be completed no later than 30 days after the Effective Date of this Order.

g. As part of its AWSP, a Respondent may opt to provide an alternate water supply that is: (1) provided by a licensed water distributor; (2) purchased bottle water; or (3) provided by another PWS that meets the requirements of SDWA. *Note:* If the AWSP trigger is localized to a specific portion of the distribution system and the entire system is not impacted, a Respondent may opt to only serve alternative water to the portion of the population impacted. In order to consider this approach, the AWSP must include a detailed map of the PWS.

h. The alternative source of water provided shall meet all applicable SDWA requirements contained in 40 C.F.R. Part 141. If bottled water will be used by a Respondent as an alternative water in accordance with this Order, such Respondent must ensure that the bottled water is certified by the International Bottled Water Association or National Sanitation Foundation International.

i. AWSP Implementation Triggers:
   i. If, based upon a Respondent's RTCR sampling data collected in accordance with 40 C.F.R. § 141.857 and as outlined in Paragraphs 74.l-p (Sample Siting Plan), below, the PWS exceeds 5.0% total coliform-positive samples in any monthly period during the term of this Order, Respondent shall comply with the "Level 1" assessment requirements of the RTCR at 40 C.F.R. § 141.859(b). In addition, Respondent shall begin implementation of the AWSP within 24 hours of receiving such sampling results. Respondent shall continue implementing the AWSP until EPA provides written notification to Respondent that AWSP implementation is no longer required; or
   ii. Within 24 hours of a Respondent's collection of daily special purpose samples required under Paragraph 74.d.iv (Low/Loss of Pressure Events) above, Respondent shall begin implementation of the AWSP. Respondent shall continue implementing the AWSP until all daily special purpose sample results are total coliform negative. *Note:* The AWSP may consider, in certain situations, that only a portion of the population is impacted by the triggering event and therefore alternative water only needs to be provided to those impacted. See requirements under Paragraph 74.g above.

Schedule for Correcting Significant Deficiencies:

j. Within 30 days of the Effective Date of this Order, CC PWD shall inspect the elevated tank located at or near 5715 Church Road. The inspection scope shall assess conformance with the applicable provisions of the American Water Works Association ("AWWA") G200-15 Distribution System Operation and Management and AWWA D107-10 Composite Elevated Tanks for Water Storage. Within 45 days of receiving a final inspection report from the contractor that performed the inspection, CC PWD must initiate repairs necessary to ensure the ongoing sanitary operation of this elevated tank.

k. Each Respondent shall submit a plan within 45 days of the Effective Date of this Order, for EPA and IEPA review and for EPA approval, to correct the significant deficiencies identified as a result of the April 2021 investigation. The plan shall include specific actions to correct the significant deficiencies, an implementation schedule, and anticipated completion dates.

Sample Siting Plan:

l. Within seven days of the Effective Date of this Order, each Respondent shall review its current Sample Siting Plan developed pursuant to 40 C.F.R. § 141.853, to ensure consistency with the RTCR and simultaneously provide a copy of its current Sample Siting Plan to EPA and IEPA for concurrent review and for IEPA approval.

m. If the current Sample Siting Plan does not include a minimum number of sampling locations per month as required under 40 C.F.R. § 141.857(b), Respondent(s) shall update, and submit to EPA and IEPA for review and for IEPA approval, the Sample Siting Plan to achieve the required minimum monitoring frequency for the monthly monitoring period after the Effective Date of this Order.

n. Each Respondent shall collect all total coliform sampling at sites that are representative of water throughout the distribution system, and if the locations in the current Sampling Siting Plan are not representative of water throughout the distribution system, as required under 40 C.F.R. § 141.853(a), Respondent(s) shall update, and submit to EPA and IEPA for review and for IEPA approval, the Sample Siting Plan to be representative of all areas of the distribution system.

o. Within seven days of the Effective Date of this Order, each Respondent shall provide to EPA and IEPA RTCR and any bacteriological sampling data for January 2021 to July 2021. Each Respondent shall include in its submittal the chlorine residual data for the RTCR locations.

p. Each Respondent shall continue to submit the RTCR and any bacteriological sampling data to EPA and IEPA until directed otherwise by EPA. This data shall include all chlorine residual data for all RTCR sampling locations.

System Information:

q. Within 30 days of the Effective Date of this Order, Respondents shall provide the following information to EPA and IEPA:
   i. An updated water distribution atlas, including locations of air release valves, elevation of valves, elevation of venting, and material type and size of pipes and appurtenances;
   ii. Copies of records of line breaks for the period of time January 2018 to present;
   iii. Copies of records of low pressure/no pressure events for the period of time January 2018 to present;
   iv. Average depth of distribution system;
   v. Maps of Pressure Zones;
   vi. Dates, times, duration, and location of fire flows and flushing events for the period of time January 2018 to present;
   vii. Dates, times, duration, and location of other high flow events for the period of time January 2018 to present; and
   viii. For each finished water storage tank:
      A. Overflow elevation
      B. Normal low-level elevation
      C. Tank bottom elevation
      D. Grade elevation
      E. The elevation of the highest and lowest water level in each tank for each month for the period of time January 2018 to present.

Notifications and Reporting:

r. Respondents shall notify EPA and IEPA within 24 hours after learning of a violation of this Order or any NPDWRs, or of a situation with the potential to have serious adverse effects on human health as a result of exposure to contaminants.

s. Within seven days of the Effective Date of this Order, Respondents shall each begin submitting weekly email updates to EPA and IEPA on progress complying with this Order. Each Respondent shall submit its weekly email update prior to the regular meetings EPA, IEPA, and Respondents will schedule pursuant to Paragraph 74.t, below. Each weekly email update shall identify and describe all actions taken in the previous week to meet the requirements of this Order.

t. Within seven days of the Effective Date of this Order, Respondents shall contact EPA to set up a mutually agreeable regular meeting schedule among Respondents, EPA, and IEPA. The purpose of the meetings to be scheduled pursuant to this Paragraph are to accomplish the following goals:
   i. Provide an opportunity for Respondents and EPA to clarify requirements and timelines,
   ii. Provide an opportunity for each Respondent to report to EPA any issues, concerns, or problems it faces in complying with the terms of this Order, and

iii. Provide an opportunity for Respondents, EPA, and IEPA to maintain an open channel of communication wherein new information can be shared.

u. All submissions, including progress reports, required under this Order shall be submitted electronically to the following addressees:

As to EPA:

James Adamiec
Water Enforcement and Compliance Assurance Branch
U.S. EPA Region V
77 West Jackson Boulevard (WG-15J)
Chicago, IL 60604
Email: adamiec.james@epa.gov

As to IEPA:

Mike Brown, Division Manager
Bureau of Water – Division of Public Water Supplies
1021 North Grand Ave East,
P.O. 19276
Springfield, IL 62794
Email: Michael.L.Brown@illinois.gov

v. All reports and other documentation submitted under this Order shall be accompanied by the following certification:

Respondent certifies that any information or representation it has supplied to EPA concerning this matter was, at the time of submission true, accurate, and complete and that there has been no material change regarding the truthfulness, accuracy or completeness of such information or representation. EPA shall have the right to institute further actions to recover appropriate relief if EPA obtains evidence that any information provided and/or representations made by Respondent to EPA regarding matters relevant to this Order are false or, in any material respect, inaccurate. This right shall be in addition to all other rights and causes of action that EPA may have, civil or criminal, under law or equity in such event. Respondent and its officers, directors and agents are aware that the submission of false or misleading information to the United States government may subject a person to separate civil and/or criminal liability.

V. PARTIES BOUND

75. The provisions of this Order shall apply to and be binding upon Respondents, their officers, employees, agents, successors, and assigns.

VI. GENERAL PROVISIONS

76. This Order constitutes final agency action. Under Section 1448(a) of the SDWA, 42 U.S.C. § 300j-7(a), Respondents may seek federal judicial review.

77. EPA may modify this Order. EPA will consider information provided by Respondents to modify this Order. EPA will communicate any modification(s) to Respondents in writing and the modification(s) shall be incorporated into this Order.

78. Compliance with the terms and conditions of this Order shall not in any way be construed to relieve Respondents from their obligations to comply with all provisions of federal, state, or local law, nor shall it be construed to be a determination of any issue related to any federal, state, or local permit. Compliance with this Order shall not be a defense to any actions subsequently commenced for any violation of federal laws and regulations administered by the EPA, and it is the responsibility of Respondents to comply with such laws and regulations.

79. Pursuant to SDWA Section 1431(b), 42 U.S.C. § 300i(b), in the event any Respondent violates, fails, or refuses to comply with any of the terms or provisions of the Order, EPA may commence a civil action in U.S. District Court to require compliance with this Order and to assess a civil penalty of up to $24,674 per day of violation under the SDWA, as adjusted by the Federal Civil Penalties Inflation Adjustment Act of 1990, amended by the Debt Collection Improvement Act of 1996, and the subsequent Civil Monetary Penalty Inflation Adjustment Rule, 40 C.F.R. § 19.

80. EPA reserves all rights against Respondents and all other persons to take any further civil, criminal, or administrative enforcement action pursuant to any available legal authority, and to exercise its information gathering and inspection authorities. Nothing in this Order shall preclude EPA from taking any additional enforcement actions, including modification of this Order or issuance of additional Orders, and/or additional actions as EPA may deem necessary, and/or from requiring Respondents in the future to perform additional activities pursuant to the SDWA or any other applicable law. EPA further expressly reserves the right to disapprove work performed by the Respondents.

VII. EFFECTIVE DATE

81. Under SDWA Section 1431, 42 U.S.C. § 300i, this Order shall be effective immediately on the date on which it is signed by the Regional Administrator, Region 5. If modifications are made by EPA to this Order, such modifications will be effective on the date on which the modification is signed by the Regional Administrator, Region 5.

VIII. TERMINATION AND SATISFACTION

82. The provisions of this Order shall be deemed satisfied when a Respondent receives written notice from EPA that Respondent has demonstrated, to the satisfaction of EPA, that the terms of this Order, including any additional tasks determined by EPA to be required under this Order or any continuing obligation or promises, have been satisfactorily completed, and the written notice from EPA will state that this Order is terminated.

SO ORDERED:

CHERYL NEWTON Digitally signed by CHERYL NEWTON Date: 2021.08.02 19:28:29 -05'00'

Date: _____

Cheryl L. Newton
Acting Regional Administrator
U.S. Environmental Protection Agency,
Region 5

Attachment A
Continuous Pressure Monitoring Requirements

1. **Purpose**: To assess distribution system pressure performance under main break, flushing, fire flow, and other emergency conditions. Monitoring will be used to assess system performance with these three core performance criteria:
    a. Maintain greater than 20 pounds per square inch (psi) under maximum day demand and fire flow conditions
    b. Maintain 35 psi under normal conditions.

2. **Monitoring Duration:** Monitoring shall begin within 15 days of the Effective Date of this Order and continue for 12 consecutive months.

3. **Monitoring Locations:**
    a. Fixed Monitoring Locations: At a minimum, one meter shall be provided to represent the pressure in the distribution system at the location of each interconnect between distribution systems. Additional meters are required upstream and downstream of in-system pumping stations.
    b. Transitory Monitoring Locations: A minimum of three additional meters shall be placed in or near the areas of concern with expected occurrences of potential contaminants, chronic line breaks, or known areas of low pressure. The map included as Attachment C outlines the known areas of concern.
    c. Locations of transitory monitoring equipment will be evaluated monthly. If the monitoring data, or any other relevant field conditions, show a meter is not meeting the purpose of this monitoring then the location can be moved to a new location approved by EPA.

4. **Equipment Specifications:** Meters shall have the following minimum specifications:
    a. Meters shall have the ability to log recorded data locally.
    b. Meters shall have the ability to transmit data for real-time or near real-time monitoring. Examples of data telemetry are existing Supervisory Control and Data Acquisition (SCADA) systems or cellular networks.
    c. Each meter shall have a tolerance of +- 2 psi.
    d. Each meter shall be properly calibrated and zeroed per manufacturers recommendations,
    e. Each meter shall be capable of sub-second monitoring to characterize transient pressure events.

5. **Equipment Placement:** Equipment shall be placed to represent the at-grade or near at-grade pressure conditions in the distribution system.

    a. Meters shall be installed on hydrants, underground meter pits, valve pits, or inside buildings with commercial fire service lines and before any backflow preventers or Pressure Reducing Valves.

b. If meters are located inside buildings, the influence of domestic demand must not be significant.
c. If meters are located on hydrants, provisions must be made to protect the hydrant from freezing during winter months.
d. Meters must not be placed in the general vicinity of water storage tanks.
e. One meter shall be located upstream of each booster pumping station.

6. **Pressure Monitoring:** Meters shall provide continuous pressure monitoring including:
    a. Minimum recording interval shall be 10 minutes.
    b. Minimum sampling interval shall be 10 seconds.
    c. The minimum, maximum and average pressure must be recorded for each recording interval.

7. **Transient Monitoring:** In addition to the continuous pressure monitoring, each meter shall also monitor pressure transient events. A pressure transient event for the purposes of this Order is a pressure change of 5 psi within a 10 second window. For each transient event, the meter must record:
    a. Sample rate of 50 milliseconds (ms)
    b. Store pre-impulse data for 15 seconds
    c. Store post-impulse data for 20 seconds

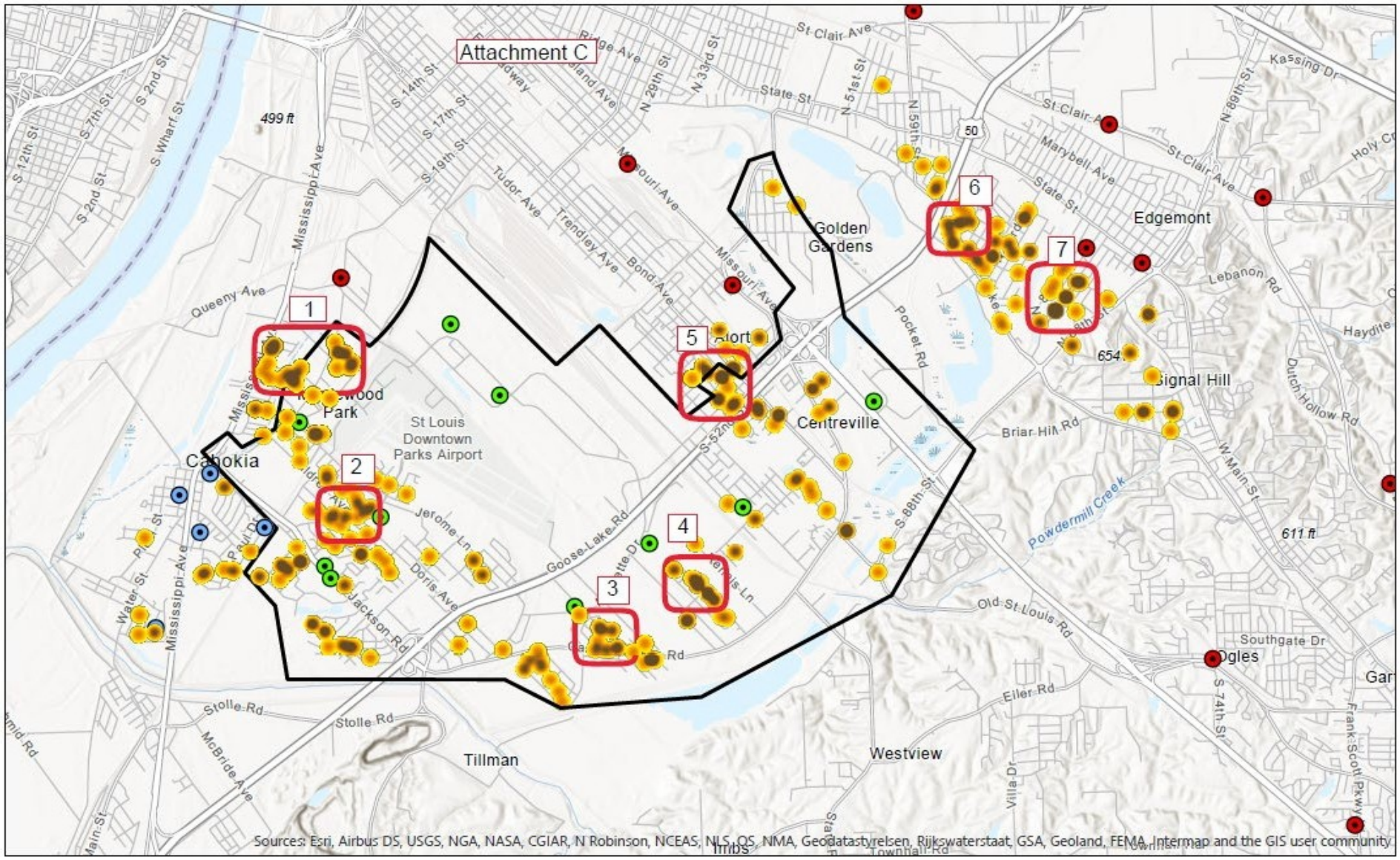
8. **Monthly Reporting:** For each meter location, a monthly report shall be sent to EPA and IEPA by the 10th calendar day of the following month. The report shall include:
    a. An excel workbook with the date/timestamp and the minimum, maximum and average values for the 10-minute recording intervals.
    b. A separate workbook(s) for each transient event with timestamps and pressure readings for each transient event occurring that month.
    c. A list of the dates, times, locations, and durations of main breaks, flushing, fire flow, and other emergency conditions causing expected changes in distribution system pressure.

9. **References:** LeChevallier, M. W., J. Yang, M. Xu, D. Hughes, and G. Kunkel. 2014. Pressure Management: Industry Practices and Monitoring Procedures. WRF: Denver Colo.

Attachment B
Sampling Requirements for Number of Connections for Each PWS Distribution System Within the City of Cahokia Heights

# of Connections Affected	# of Samples Required	# of Connections Affected	# of Samples Required
1 - 100	2	4,301 - 5,700	18
101 - 300	3	5,701 - 8,300	20
301 - 500	4	8.301 - 11,000	30
501 - 700	5	11 ,001 - 13,000	40
701 - 900	6	13,001 - 16,000	50
901 - 1,100	7	16,001 - 19,000	60
1,101 - 1,300	8	19,00 I - 23,000	70
1,301 - 1,600	9	23,001 - 27,000	80
1,601 - 2,200	10	27,001 - 32,000	90
2,201 - 2,500	11	32,001 -43,000	100
2,501 - 2,800	12	43,001 - 73,000	120
2,801 - 4,300	15	73,001 - 107,000	150

Note: Equivalent connections (and populations served) will be considered when determining the number of samples which must be collected for a system with a large ratio of population to connections.



RTCR Sites

0 VOCRTCRSampleSitePlan_Primary

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0 COCRTCRSampleSitePlan_Primary

Commonfields Water District

SSOs and Backups

Sparse

Dense

Additional Monitoring Sites

A

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Miles