Enclosure C

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE
WASHINGTON, D.C.

IN THE MATTER OF:	:	Proceedings Pursuant To
	:	Section 1431 of the Safe Drinking
City of Flint, Michigan; Michigan	:	Water Act, 42 U.S.C. § 300i
Department of Environmental	:	
Quality; and the State of Michigan,	:	EMERGENCY
	:	ADMINISTRATIVE ORDER
Respondents.	:	

I. INTRODUCTION

1. The Safe Drinking Water Act ("SDWA" or "Act") provides the U.S. Environmental Protection Agency ("EPA" or "Agency") with the authority to order actions when an imminent and substantial endangerment exists and the actions taken by the state and/or local authorities are inadequate to protect public health. EPA has determined that the City of Flint's and the State of Michigan's responses to the drinking water crisis in Flint have been inadequate to protect public health and that these failures continue. As a result, EPA is issuing this SDWA Emergency Order ("Order") to make sure that the necessary actions to protect public health happen immediately. The Order requires that necessary information be provided promptly to the public in a clear and transparent way to assure that accurate, reliable, and trustworthy information is available to inform the public and decisions about next steps. In addition to the issuance of this Order, EPA will promptly begin sampling and analysis of lead levels in tap water in the City of Flint's public water system ("PWS"). EPA will publish these sampling results on its website to provide the public with transparency into the process to abate the public health emergency in the City of

Flint. In the coming weeks, EPA may take additional actions under the SDWA to address the situation in the City of Flint.

II. STATUTORY AUTHORITY

2. This Order is issued under the authority vested in the Administrator of the EPA by Section 1431 of the SDWA, 42. U.S.C. § 300i. This Order is issued for the purpose of protecting the health of persons who are supplied drinking water by a PWS with conditions that may present an imminent and substantial endangerment to human health.

III. FINDINGS OF FACT

3. The City of Flint, Michigan ("City") owns and operates a PWS that provides piped drinking water for human consumption to its nearly 100,000 citizens.
4. From December 2011 through April 2015, an emergency manager was appointed by the State of Michigan ("State") under Public Act 436 to oversee the management of the City during its financial crisis. During that time, the City became a partner with the Karegnondi Water Authority ("KWA") and decided to no longer purchase treated drinking water from the Detroit Water and Sewerage Department ("Detroit").
5. The Michigan Department of Environmental Quality ("MDEQ") has primary responsibility for the implementation and enforcement of the public water system program in Michigan.
6. Before April 2014, the City purchased finished drinking water from Detroit.
7. On or around April 25, 2014, the City ceased purchasing treated drinking water from Detroit and began drawing water from the Flint River as its source water.

8. Between July and December 2014, the City conducted the first of two rounds of six month lead sampling under the Lead and Copper Rule ("LCR"), 40 C.F.R. § 141.80 *et seq*.

9. The City conducted the second of two rounds of six month lead sampling under the LCR between January and June 2015. These rounds of sampling showed that the levels of lead in the City water supply were rapidly rising.

10. On or about April 24, 2015, MDEQ notified EPA that the City did not have corrosion control treatment in place at the Flint Water Treatment Plant.

11. During May and June, 2015, EPA Region 5 staff at all levels expressed concern to MDEQ and the City about increasing concentrations of lead in Flint drinking water and conveyed its concern about lack of corrosion control and recommended that the expertise of EPA's Office of Research and Development should be used to avoid further water quality problems moving forward.

12. On July 21, 2015, EPA Region 5 discussed with MDEQ the City's lead in drinking water issues and implementation of the LCR and MDEQ agreed to require corrosion control as soon as possible.

13. On August 17, 2015, MDEQ sent a letter to the City recommending the City implement corrosion control treatment as soon as possible, but no later than January 1, 2016, and to fully optimize its treatment within six months.

14. On August 31, 2015, EPA Region 5 had a call with MDEQ to discuss outreach to citizens to reduce exposures to high lead levels in Flint drinking water and reiterate EPA's offer of technical assistance in implementing corrosion control treatment.

15. On September 3, 2015, Flint Mayor Dayne Walling announced that the City will implement corrosion control treatment and invited EPA corrosion control experts to join the Flint Technical Advisory Committee ("Flint TAC").

16. On September 27, 2015, EPA Region 5 Administrator Susan Hedman called MDEQ Director Dan Wyant to discuss the need for expedited implementation of corrosion control treatment, the importance of following appropriate testing protocols, urged MDEQ to enlist Michigan Department of Health and Human Services' involvement and discussed options to provide bottled water/premixed formula/filters until corrosion control is optimized.

17. On October 7, 2015, the Flint TAC met about the City's corrosion control and treatment. The Flint TAC recommended returning to Detroit water as the best course of action for the City.

18. On October 16, 2015, EPA established the Flint Safe Drinking Water Task Force ("EPA Flint Task Force") to provide the Agency's technical expertise through regular dialogue with designated officials from MDEQ and the City.

19. On or around October 16, 2015, the City switched back to purchasing finished water from Detroit, now called the Great Lakes Water Authority.

20. On November 25, 2015, the EPA Flint Task Force requested information that would allow EPA to determine the progress being made on corrosion control in the City; this information has not been received by EPA. This information includes water quality parameter measurements (pH, total alkalinity, orthophosphate, chloride, turbidity, iron, calcium, temperature, conductivity) in the distribution system. The EPA Flint Task Force has also made subsequent requests and recommendations.

http://www.epa.gov/mi/flint-drinking-water-documents The City is required by its MDEQ permit to monitor for these parameters at 25 sites quarterly and at 10 of these sites weekly. Because the City has not provided the information requested by the EPA Flint Task Force EPA does not have the information that would provide any assurance that contamination in the City's water system has been controlled.

21. On or around December 9, 2015, the City began feeding additional orthophosphate at the Flint Water Treatment Plant to begin optimizing corrosion control treatment. Notwithstanding the orthophosphate addition, high levels of lead and other contaminants are presumed to persist in the City's water system until LCR optimization process, utilizing sampling and monitoring requirements, have confirmed lead levels have been reduced.
22. On December 14, 2015 the City declared an emergency.
23. On January 14, 2016, the Governor of the State requested a declaration of major disaster and emergency and requested federal aid.
24. On January 16, 2016, the President of the United States declared a federal emergency in the City.
25. The presence of lead in the City water supply is principally due to the lack of corrosion control treatment after the City's switch to the Flint River as a source in April 2014. The river's water was corrosive and removed protective coatings in the system. This allowed lead to leach into the drinking water, which can continue until the system's treatment is optimized.
26. Lead occurs in drinking water from two sources: lead in raw water supplies and corrosion of plumbing materials in the water distribution system (i.e., corrosion

byproducts). Most lead contamination is from corrosion byproducts. The amount of lead in drinking water attributable to corrosion byproducts depends on a number of factors, including the amount and age of lead bearing materials susceptible to corrosion, how long the water is in contact with the lead containing surfaces, and how corrosive the water in the system is toward these materials. *Final Rule: Maximum Contaminant Level Goals and National Primary Drinking Water Regulations for Lead and Copper,* 56 *Fed. Reg.* 26460, 26463 (June 7, 1991).

27. EPA has set the Maximum Contaminant Level Goal ("MCLG") at zero for lead because (1) there is no clear threshold for some non-carcinogenic lead health effects, (2) a substantial portion of the sensitive population already exceeds acceptable blood lead levels, and (3) lead is a probable carcinogen. 56 *Fed. Reg.* at 26467. Pregnant women, unborn children, and children under the age of six are particularly sensitive to lead exposure.

28. The concentration of lead in whole blood has been the most widely used index of total lead exposure. Lead exposure across a broad range of blood lead levels has been associated with a spectrum of patho-physiological effects, including interference with heme synthesis necessary in the formation of red blood cells, anemia, kidney damage, impaired reproductive function, interference with vitamin D metabolism, impaired cognitive performance (as measured by IQ tests, performance in school, and other means), delayed neurological physical development, and elevation in blood pressure. 56 Fed. Reg. 26467-68.

29. EPA finds that consumption of lead in water contributes to increase in blood lead levels. The Centers for Disease Control and Prevention uses a reference level of 5

micrograms per deciliter to identify children with elevated blood lead levels. This new level is based on the U.S. population of children ages 1 – 5 years who are in the highest 2.5% of children when tested for lead in their blood. http://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm

30. Under the LCR, the "action level" for lead is the concentration of lead at which corrective action is required. 40 C.F.R. § 141.2.

31. EPA's LCR includes requirements for corrosion control treatment, source water treatment, lead service line replacement, and public education. These requirements are triggered, in some cases, by lead and copper action levels measured in samples collected at consumers' taps. The action level for lead is exceeded if the concentration of lead in more than 10 percent of tap water samples collected during the monitoring period conducted in accordance with 40 C.F.R. § 141.86 is greater than 0.015mg/L (i.e., if the "90th percentile" is greater than 0.015mg/L). 40 C.F.R. § 141.80(c). When a large system exceeds this action level, the LCR requires the system to: 1) implement public education requirements; 2) implement all applicable source water treatment requirements specified by the primacy agency under 40 C.F.R. § 141.83; and (3) if the system is exceeding the action level after implementation of all applicable corrosion control and source water treatment requirements, then the system must replace lead service lines in accordance with 40 C.F.R. § 141.84.

32. All large systems (over 50,000 persons) are required to either complete corrosion control treatment steps in 40 C.F.R. § 141.91(d) or be deemed to have optimized corrosion control treatment under 40 C.F.R. § 141.81(b)(2) or (b)(3).

33. Based on the foregoing, EPA finds that water provided by the City to residents poses an imminent and substantial endangerment to the health of those persons. Those persons' health is substantially endangered by their ingestion of lead in waters that persons legitimately assume are safe for human consumption. This imminent and substantial endangerment will continue unless preventive actions are taken.

34. The City, MDEQ and the State have failed to take adequate measures to protect public health. Although some progress has been made in addressing the drinking water crisis in the City, there continue to be delays in responding to critical EPA recommendations and in implementing the actions necessary to reduce and minimize the presence of lead and other contaminants in the water supply both now and in the near future. The Respondents have failed and continue to fail to provide the information necessary for EPA, the EPA Flint Task Force and the City's PWS customers to fully understand and respond promptly and adequately to the current deficiencies. EPA remains concerned that the City lacks the professional expertise and resources needed to carry out the recommended actions and to safely manage the City's PWS.

35. In accordance with SDWA Section 1431(a), 42 U.S.C. § 300i(a), to the extent practicable EPA has consulted with state and local authorities regarding the information on which this EPA action is based.

36. This Order and the requirements set forth herein are necessary to ensure adequate protection of public health in the City.

37. As a result of the emergency, EPA will promptly begin sampling and analysis of lead levels and other contaminants in the City to assure that all regulatory authorities and the public have accurate and reliable information.

38. EPA will make its LCR sampling results available to the public on the Agency's website.

IV. CONCLUSIONS OF LAW

39. Section 1431 (a), 42 U.S.C. § 300i(a), specifies that the EPA Administrator, upon receipt of information that a contaminant which is present in or likely to enter a public water system that may present an imminent and substantial endangerment to the health of persons, and that State and local authorities have not acted to protect the health of such persons, may take such actions as she may deem necessary in order to protect the health of such persons.

40. The City owns and operates a "public water system" within the meaning of SDWA Section 1401.

41. MDEQ is an instrumentality of the State.

42. The City, State and MDEQ are "persons" as defined in SDWA Section 1401(c)(12).

43. Respondents' cessation of purchased water from Detroit and switch to the Flint River as its source water triggered a cascade of events that directly resulted in the contribution of lead and other "contaminants" that are within the meaning of SDWA Sections 1401(c)(6) and 1431 of the Act.

44. The contaminants introduced by Respondents are present in or likely to enter a PWS.

45. Based upon the information and evidence, EPA determines that Respondents' actions that resulted in the introduction of contaminants, which entered a public water system

and have been consumed and may continue to be consumed by those served by the public water system, present an imminent and substantial endangerment to the health of persons.

46. The lead and other contaminants will remain present in the PWS and will continue to present an imminent and substantial endangerment to the health of persons until the underlying problems with the corrosion control treatment and fundamental deficiencies in the operation of the PWS are corrected and sampling results confirm the lead and other contaminants are adequately treated.

47. Respondents have failed to take adequate measures to protect public health.

48. The EPA has consulted with the State and local authorities, to the extent practicable, to confirm the correctness of the information upon which this ORDER is based and to ascertain the actions which such authorities are or will be taking. All requisite conditions have been satisfied for the EPA action under SDWA Section 1431(a)(1), 42 U.S.C. § 300i(a)(1).

49. The EPA finds that there is an imminent and substantial endangerment to the people drinking water from the public water system of the City of Flint and that the actions taken by the State and/or the City are inadequate to protect public health. The actions required by this ORDER are necessary to protect the health of persons who are currently consuming or who may consume or use water from the City's PWS.

V. ORDER

Based on the foregoing Findings and Conclusions, and pursuant to Section 1431 of the Act, 42 U.S.C. 300i,

IT IS ORDERED:

Intent to Comply

50. Within one day of the effective date of this Order, Respondents shall notify EPA in writing of their intention to comply with the terms of this Order. For the purposes of this Order, "day" shall mean calendar day.

Reporting Requirements

51. Within five days of the effective date of this Order, the State shall create, and thereafter maintain, a publicly available website. Respondents must post on this website all reports, sampling results, plans, weekly status reports on the progress of all requirements and all other documentation required under this Order. The Respondents shall not publish to this website any personally identifiable information.

Response to EPA Flint Task Force Recommendations, Requests for Information and Sampling Activities

52. The Respondents shall within 10 days of the effective date of this Order respond in writing, in accordance with Paragraph 51, to all of the EPA Flint Task Force's requests and recommendations made on November 25, 2015 and subsequent dates. The response shall include all actions Respondents have taken and intend to take in response to those requests and recommendations. The EPA Flint Task Force's requests and recommendations are publicly available at http://www.epa.gov/mi/flint-drinking-water-documents.

53. Within 10 days of the effective date of the Order the Respondents shall provide the following information in accordance with Paragraph 51:

    a. Water quality parameter measurements (pH, total alkalinity, orthophosphate, chloride, turbidity, iron, calcium, temperature, conductivity) in the distribution

system. The City is required by the MDEQ permit to monitor for these parameters at 25 sites quarterly and at 10 of these sites weekly;

b. All lead in water testing results for the City since January 2013, including those not used for LCR compliance; and

c. Identification of areas (e.g., zip codes, neighborhoods) in the City with elevated blood lead levels.

54. Within 10 days of the effective date of the Order, the Respondents shall provide, without publicly disclosing any personally identifiable information, the following directly to the EPA in accordance with Paragraph 66:

a. Existing inventory of homes with lead service lines in Excel or a similar format;

b. Addresses of homes that have had water service interruptions or street disturbances (e.g., water main breaks, road/sidewalk construction, etc.) within the last year; and

c. Addresses of currently unoccupied homes.

55. Respondents shall cooperate with EPA as the Agency conducts LCR sampling and other diagnostic activities in the City.

Treatment and Source Water

56. To ensure that treated water meets finished water quality goals and is consistently maintained throughout the distribution system, that existing and potential plant operational and mechanical start-up issues are identified and addressed, and that water plant operations staff are proficient in treating the existing and new source water, Respondents shall comply with Paragraphs 57, 58 and 59.

57. Respondents shall maintain chlorine residual in the distribution system in accordance with SDWA and the National Primary Drinking Water Regulations ("NPDWRs").

58. The City shall continue to add corrosion inhibitors (e.g., orthophosphate booster) at levels sufficient to re-optimize corrosion control in the distribution system.

59. To address optimization of corrosion control for the system as operated with its current water source, within 14 days of the effective date of this Order the Respondents shall submit to MDEQ and post in accordance with Paragraph 51:

    a. Submit a plan and schedule to the MDEQ to review and revise as needed designated optimal corrosion control and water quality parameters as well as monitoring plans for LCR compliance and all other monitoring plans developed to ensure that the treatment plant is consistently and reliably meeting plant performance criteria and all other NPDWRs;

    b. Submit a sampling plan for daily monitoring of water quality parameters in the distribution system with results compiled in a weekly report in an approved format; and

    c. Submit an operations plan for the corrosion control equipment (storage day tanks, feed/injection systems), with results compiled in a weekly format, that includes monitoring, calibration, verification (pump catch, etc.) as well as daily monitoring of finished water corrosion control parameters. Results shall be submitted and posted weekly.

60. Respondents shall not effectuate a transition to a new water source for the City's PWS (e.g., from KWA) until such time as they have submitted a written plan, developed through consultation with appropriate experts and after providing adequate

advanced notice and an opportunity for public comment, to MDEQ and in accordance with Paragraph 51, demonstrating that the City has the technical, managerial and financial capacity to operate its PWS in compliance with SDWA and the NPDWRs and that necessary infrastructure upgrades, analysis, and testing have been completed to ensure a safe transition. Such plans shall include, but not be limited to, provisions addressing:

a. The impacts on corrosion control for any new source water and an operations plan for periodic use of existing sources of water;

b. Completion of corrosion control study for any new sources;

c. Implementation of a "performance period" that allows for the demonstration of the adequacy of treatment of the new water source to meet all NPDWRs before it can be distributed to residents; and

d. The City's technical, managerial and financial capacity to meet SDWA's applicable requirements, including the NPDWRs, during and after the transition to any new water source.

Treatment and Distribution System Management

61. Within 15 days of the effective date of this Order, the City must demonstrate, and the MDEQ and State must ensure, the City has the necessary, capable and qualified personnel required to perform the duties and obligations required to ensure the PWS complies with the SDWA and the NPDWRs.

62. To ensure the City's PWS is adequately operated to meet SDWA and all NPDWRs, within 30 days of the effective date of this Order, the Respondents shall submit the steps they will take to develop and implement a distribution system water quality

optimization plan to MDEQ and in accordance with Paragraph 51, to evaluate and improve its programs that affect distribution system water quality, including: evaluating conditions within the distribution system; creating better documentation; and enhancing communication between the various utility functions that impact distribution system water quality. The MDEQ must ensure that this plan is adequate to ensure SDWA compliance and the State must ensure it is executed.

Independent Advisory Panel ("IAP")

63. Within seven days of the effective date of this Order, the MDEQ and State, with the City's input and concurrence, shall engage a panel of independent, nationally-recognized experts on drinking water treatment, sampling, distribution system operation, and members of the affected community to advise and make public recommendations to the City on steps needed to mitigate the imminent and substantial endangerment to the health of persons and general operation of the City's PWS to ensure compliance with SDWA and the NPDWRs.

64. The charge to the IAP will include the following:

    a. Make recommendations to the Respondents, and for consideration by the EPA, to ensure the safe operation of the City's PWS.

    b. Make other recommendations to the Respondents, and for consideration by the EPA, to better serve the community served by the City's PWS.

VI. PARTIES BOUND

65. The provisions of this Order shall apply to and bind Respondents and their officers, employees, agents, successors and assigns.

VII. GENERAL PROVISIONS

66. All submittals and inquiries pursuant to this Order shall be addressed to:

Mark Pollins, Director
Water Enforcement Division
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
William Jefferson Clinton South Building
1200 Pennsylvania Avenue NW
Room 3104
Washington, DC 20460
pollins.mark@epa.gov

67. All plans, reports, notices or other documents submitted by Respondents under this Order shall be accompanied by the following statement signed by a responsible official.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering such information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

68. Record preservation. Respondents shall retain, during the pendency of this Order, and for a minimum of six years after its termination, all data, records and documents in its possession or control, or which comes into its possession or the possession of its divisions, officers, directors, employees, agents, contractors, successors, and assigns, which relate in any way to this Order. After the above mentioned six year period, Respondents shall provide written notification to EPA 60 calendar days before the destruction of any data, records, or documents that relate in any way to this Order or its implementation. At the EPA's request, Respondents shall then make records available to the EPA for inspection and/or retention, or shall provide copies of any such records to EPA before discarding.

69. Within 10 days of the effective date of this Order, or at the time of retaining any agent, consultant, or contractor for the purpose of carrying out terms of this Order, Respondents shall enter into an agreement with any such agents, consultants, or contractors whereby such agents, consultants, or contractors will be required to provide Respondents a copy of all documents produced under this Order.

70. EPA retains all of its information gathering and inspections authorities and rights, including the right to bring enforcement actions related thereto, under SDWA and any other applicable statutes or regulations.

71. Pursuant to SDWA Section 1431(b), 42 U.S.C. § 300i, in the event Respondents violate, fail or refuse to comply with any of the terms or provisions of this 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 $21,500 per day of violation under 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. Part 19.

72. Compliance with the terms and conditions of this Order shall not in any way be construed to relieve Respondents of their obligations to comply with all applicable 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 EPA, and it is the responsibility of Respondents to comply with such laws and regulations.

73. EPA may modify this Order to ensure protection of human health and the environment. Such modification shall be in writing and shall be incorporated into this Order.

74. This Order shall constitute final agency action by EPA.

VIII. EFFECTIVE DATE

75. Under SDWA Section 1431, 42 U.S.C. § 300i, this Order shall be effective immediately upon Respondents' receipt of this Order. If modifications are made by the EPA to this Order, such modifications will be effective on the date received by Respondents. This Order shall remain in effect until the provisions identified in the Order have been met in accordance with written EPA approval.

IX. TERMINATION

76. The provisions of this Order shall be deemed satisfied upon Respondents' receipt of written notice from the EPA that Respondents have demonstrated, to the satisfaction of the 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.

1/21/16

Date

Cynthia Giles

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