



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

**FEB 19 2016**

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

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Dear Director Creagh, Mr. Krisztian, Mr. Glasgow and Mr. Chubb:

Thank you for your continued work to address the serious and ongoing issues with the safety of the City of Flint's (City) public water system and to comply with the Emergency Order that EPA issued on January 21, 2016 (Order). There has been progress toward compliance by the City, the State of Michigan (State), and Michigan Department of Environmental Quality (MDEQ), collectively Respondents. We have been in regular communication with officials at all levels to

assure that appropriate steps are being taken to protect the people of Flint and that we are informed of the status of compliance efforts.

As we have discussed, there are two significant issues that need immediate attention. First, Respondents must develop a comprehensive plan to ensure the optimization of corrosion control for the public water system for the current source water, as required by Paragraph 59 of the Order. Having a comprehensive and interactive plan instead of individual pieces of a strategy is essential to protect the residents of Flint, and will allow the City and MDEQ to better anticipate and handle changes in the public water system that may impact corrosion control for Lead and Copper Rule (LCR) purposes. Many of the data collection efforts underway to optimize corrosion control have been performed pursuant to expert advice from the EPA Flint Task Force and others, and these important steps are improving system operations and corrosion control. However, it remains important that the City have and operate under a rigorous, concerted, optimized corrosion control treatment plan for the existing source water to guide any necessary adjustments to treatment and to set performance goals on when treatment is considered optimized. The EPA Flint Task Force and others stand ready to assist the City and MDEQ in developing a comprehensive and interactive corrosion control plan that incorporates all the individual parts necessary to optimize corrosion control in the public water system. EPA would like to discuss an appropriate timeline for this plan in a meeting with Respondents next week.

EPA understands that the City is moving ahead with lead service line replacements. EPA supports that effort, and is happy to work with the City to ensure that it is carefully designed and implemented. EPA notes that lead service line replacement will not change the continued need for a robust and ongoing optimized corrosion control treatment program or any of the other requirements of the Order.

Second, the City has not yet demonstrated it has an adequate number of qualified personnel to perform the duties and obligations required to ensure the City's public water system complies with the Safe Drinking Water Act (SDWA) and the National Primary Drinking Water Regulations (NPDWRs), including the LCR. Paragraph 61 of the Order required the Respondents to demonstrate by February 5, 2016 that the necessary expertise and staffing exists. However, based on our conversations, your submissions under the Order, and EPA's observations on the ground, the staffing appears inadequate, even to operate as a consecutive public water system providing limited treatment. EPA expects to be alerted of any staffing changes that could impact the ability of Respondents to comply with the Order.

It is important to underscore that both of these ongoing problems relate to key provisions of the Order, which clearly states that there can be no switch away from the finished water purchased from the Great Lakes Water Authority to another water source (*e.g.*, Karegnondi Water Authority) unless and until the current system is fully optimized and running properly and the City demonstrates it has the technical, managerial, and financial capacity to operate the public

water system in compliance with the SDWA and NPDWRs. EPA will determine the adequacy of the actions and plans required in the Order before the City switches to a new source. To be clear, the City cannot switch to a new water source until there is a comprehensive corrosion control plan that is fully operational with optimized corrosion control treatment in place and the system has the necessary staffing and expertise to reliably operate the drinking water plant and distribution system.

This letter includes three attachments that lay out recent exchanges regarding other issues that have been the subject of ongoing correspondence and discussion with the Respondents. Attachment A is the email EPA sent on February 8, 2016 describing concerns with responses to the Order. Attachment B is the State's preliminary response to Attachment A dated February 11, 2016. Attachment C is EPA's current summary of the status of compliance with the provisions of the Order, based on documents provided by the City and the State and on-going conversations over the past week. This attachment notes the actions that have already been taken in response to EPA's stated concerns, and others that are planned. In particular, EPA notes the positive steps that the State has taken to improve transparency, including an updated web site that makes it much easier to track the status of actions on each provision of the Order.

We urge you to immediately address the two priority topics described here, and to continue to implement the additional steps as described in Attachment C. We look forward to continuing to stay in close communication as we work toward a reliable drinking water system for the people of Flint.

Sincerely,



Mark Pollins

Director

Water Enforcement Division

cc: Cynthia Giles, Assistant Administrator Office of Enforcement and Compliance Assurance, USEPA

## Attachment A

From: Mark Pollins

To: Keith Creagh, George Krisztian, Michael Glasgow, Anthony Chubb

CC: Peter Grevatt, Thomas Speth, Loren Denton, Carrie Wehling, Leslie Darman, Tinka Hyde, Heather Shoven, Leverett Nelson, Robert Thompson, Joanna Glowacki, Clarke Thurmon, Carol King, Kaitlyn Bendik

Date: Monday, February 8, 2016

Dear Director Creagh, Mr. Krisztian, Mr. Glasgow and Mr. Chubb,

Following our in-person meeting on January 28, 2016, the City, MDEQ and State made submissions pursuant to EPA's Order through February 5th of last week. After reviewing Respondents' submissions posted on the MDEQ website and provided to EPA electronically, EPA has serious concerns regarding the Respondents' compliance with the January 21, 2016 SDWA Section 1431 Emergency Administrative Order in the matter regarding the City of Flint, Michigan. As you are aware, members of the EPA Team will be in Flint tomorrow and Wednesday to discuss the following deficiencies:

1. Respondents have not responded in writing to the EPA Flint Task Force's requests and recommendations (Paragraph 52).
2. Respondents have not provided all lead in water testing results for the City since January 2013 (Paragraph 53(b)).
3. The existing inventory of homes with lead service lines submission is not adequate (Paragraph 54(a)).
4. Respondents have not adequately demonstrated (e.g., using daily sampling information) that they are maintaining chlorine residual in the distribution system (Paragraph 57) or continuing to add corrosion inhibitors at levels sufficient to re-optimize corrosion control in the distribution system (Paragraph 58).
5. Respondents have not provided plans and schedules to ensure the treatment plant is consistently and reliably meeting plant performance criteria (Paragraph 59(a)).
6. Respondents have not submitted a plan for daily monitoring of water quality parameters in the distribution system (Paragraph 59(b)).
7. Respondents have submitted an inadequate operations plan for the corrosion control equipment and daily monitoring of finished water corrosion control parameters (Paragraph 59(c)).
8. Respondents submitted a list of staff, but have not adequately demonstrated the City has the necessary, capable and qualified personnel required to perform the duties and obligations required to ensure the public water system complies with the SDWA and the National Primary Drinking Water Regulations (Paragraph 61).
9. Respondents have not yet provided a list of the "Independent Advisory Panel" membership (Paragraph 63).
10. Respondents must identify the 25 sites within the distribution system for which water quality parameter measurements are taken (Paragraph 53(a)).
11. Respondents must confirm they have identified all of the areas in the City of Flint with elevated blood lead levels (Paragraph 53(c)).

Sincerely,

Mark Pollins

## Attachment B

From: Keith Creagh

To: Mark Pollins, Keith Creagh, George Krisztian, Michael Glasgow, Anthony Chubb

CC: Peter Grevatt, Thomas Speth, Loren Denton, Carrie Wehling, Leslie Darman, Tinka Hyde, Heather Shoven, Leverett Nelson, Robert Thompson, Joanna Glowacki, Clarke Thurmon, Carol King, Kaitlyn Bendik

Date: Thursday, February 11, 2016

Mark,

Thank you for bringing these concerns forward. Contrary to the tenor of your email, we made substantial efforts and progress toward meeting the requirements of the Order, including posting materials to the [www.michigan.gov/flintwater](http://www.michigan.gov/flintwater) website (“DEQ Reports to the EPA” tab) by the required dates and times. Your February 8, 2016, email below, and the subsequent meeting between City, DEQ and EPA on February 10, 2016 at the Flint Water plant, was the first time we received any feedback on the initial response efforts of the City and the DEQ. Going forward, should there be additional or future concerns, I suggest that we have more regularly scheduled meetings and open dialogue regarding the Order so that all parties are clear on the deliverables. While we continue to dispute the legality and efficacy of the order, we are fully committed to the ultimate goal: to ensure the health and safety of Flint’s water supply as quickly as possible.

Based upon the February 10, 2016, meeting, staff have taken steps to provide a better overall organizational structure and arrangement of content on the [www.michigan.gov/flintwater](http://www.michigan.gov/flintwater) website (“DEQ Reports to the EPA” tab) so that there’s a direct correlation between the materials that are posted with the paragraphs of the Order, along with a date and time stamp at the time of posting.

In relation to the items outlined in your February 8, 2016, email, the Order’s failure to distinguish between the City, which is the actual water supplier subject to the Safe Drinking Water Act, and the State, which is the regulator, continues to create confusion. To bring some clarity to the current situation, the City and DEQ have agreed to the following breakdown of responsibilities for addressing each paragraph in your February 8, 2016 email:

1. Respondents have not responded in writing to the EPA Flint Task Force’s requests and recommendations (Paragraph 52)
  - a. DEQ will respond
2. Respondents have not provided all lead in water testing results for the City since January 2013 (Paragraph 53(b)).
  - a. City of Flint will respond
3. The existing inventory of homes with lead service lines submission is not adequate (Paragraph 54(a)).
  - a. DEQ will respond
4. Respondents have not adequately demonstrated (e.g., using daily sampling information) that they are maintaining chlorine residual in the distribution system

(Paragraph 57) or continuing to add corrosion inhibitors at levels sufficient to re-optimize corrosion control in the distribution system (Paragraph 58).

- a. City of Flint will respond
5. Respondents have not provided plans and schedules to ensure the treatment plant is consistently and reliably meeting plant performance criteria (Paragraph 59(a)).
  - a. DEQ & the City of Flint will respond
6. Respondents have not submitted a plan for daily monitoring of water quality parameters in the distribution system (Paragraph 59(b)).
  - a. DEQ & the City of Flint will respond
7. Respondents have submitted an inadequate operations plan for the corrosion control equipment and daily monitoring of finished water corrosion control parameters (Paragraph 59(c)).
  - a. DEQ & the City of Flint will respond
8. Respondents submitted a list of staff, but have not adequately demonstrated the City has the necessary, capable and qualified personnel required to perform the duties and obligations required to ensure the public water system complies with the SDWA and the National Primary Drinking Water Regulations (Paragraph 61).
  - a. City of Flint will respond.
9. Respondents have not yet provided a list of the “Independent Advisory Panel” membership (Paragraph 63).
  - a. DEQ will respond.
10. Respondents must identify the 25 sites within the distribution system for which water quality parameter measurements are taken (Paragraph 53(a)).
  - a. City of Flint will respond.
11. Respondents must confirm they have identified all of the areas in the City of Flint with elevated blood lead levels (Paragraph 53(c)).
  - a. DEQ will respond.

Updated content and information will be provided for all of the above items on the [www.michigan.gov/flintwater](http://www.michigan.gov/flintwater) website (“DEQ Reports to the EPA” tab) on Friday February 12, 2016.

Keith Creagh  
Director  
MDEQ

**Attachment C**

On February 8, 2016, U.S. Environmental Protection Agency (EPA) sent the State of Michigan (State), Michigan Department of Environmental Quality (MDEQ), and the City of Flint (collectively referred to as “Respondents”) a list (email attached, Attachment A) of serious concerns regarding Respondents compliance with the Safe Drinking Water Act § 1431 Emergency Order (Order). On February 10, 2016, EPA met in Flint, MI with representatives from MDEQ, acting on behalf of the State and MDEQ, and the City of Flint (City) to discuss EPA’s serious concerns and to clarify for Respondents the steps necessary to ensure continued compliance with the Order. The following represents EPA’s understanding of the Respondents’ current response to EPA’s concerns regarding the Order. The concerns identified in Attachment A are italicized below. Following each italicized concern is EPA’s current assessment of Respondents’ response.

1. *Respondents have not responded in writing to the EPA Flint Task Force’s requests and recommendations (Paragraph 52).*
  - a. This requirement was due on February 4, 2016. Respondents first posted 10 responsive documents on its website on February 12, 2016. Respondents have taken the positive step of beginning to respond in writing to EPA Flint Task Force requests and recommendations; however, EPA still has concerns that Respondents have not fully responded.
    - i. During the February 10, 2016 meeting, EPA and Respondents discussed that many EPA Flint Task Force requests and recommendations may already have been partially addressed. After the February 10, 2016 meeting, EPA shared a summary spreadsheet with Respondents that identifies the individual requests and recommendations from the EPA Flint Task Force in one document.
    - ii. As discussed during the February 10, 2016 meeting, EPA requested that Respondents provide information pertaining to each EPA Flint Task Force request and recommendation on the MDEQ website.
    - iii. To date, the EPA has not yet received a response from the Respondents to the provided spreadsheet or the individual requests and recommendations from the EPA Flint Task Force.
  - b. Some of the EPA Flint Task force requests and recommendations that remain unaddressed include:
    - i. Respondents have not yet identified 150 Tier 1 sites for LCR monitoring.
    - ii. Respondents have not yet begun the short-term (current) lead release optimization evaluation (utilizing pipe loop testing system). Respondents must immediately coordinate with EPA’s Office of Research and Development (ORD) to complete this task.
    - iii. Respondents have not provided the distribution system model discussed in the February 10, 2016 meeting that is under the control of the Respondents’ consulting engineers.



- iv. Respondents have not provided the design document(s) for the currently planned Karegnondi Water Authority (KWA) source water treatment facility as discussed in the February 10, 2016 meeting.
  - v. EPA remains concerned that the Respondents have not yet fully addressed the Task Force recommendation to develop and implement lead service line detection methodology.
  - vi. EPA remains concerned that the City of Flint has not optimized where it is monitoring water quality parameters to ensure adequate treatment options. The City of Flint is currently treating water (adding chlorine and orthophosphate) and needs to ensure that water quality parameters are adequately monitored in representative locations throughout the distributions system.
- 2. *Respondents have not provided all lead in water testing results for the City since January 2013 (Paragraph 53(b)).*
  - a. During the February 10, 2016 meeting, Respondents provided an explanation for data gaps. MDEQ has since added a document to the website explaining the gaps in data. This responds to EPA's concerns.
- 3. *The existing inventory of homes with lead service lines submission is not adequate (Paragraph 54(a)).*
  - a. Per the Order, this inventory was due on January 31, 2016. Following the February 10, 2016 meeting, Respondents provided the current inventory of homes with lead service lines to EPA electronically on February 12, 2016 (this information is considered personally identifiable information (PII) and thus not posted on the web). The current inventory indicates that 10,618 service lines are of an unknown type. MDEQ has indicated that it is currently developing a strategy to inventory and field verify these 10,618 residences over the next 30 to 45 days using a grid based system of the City and small teams of individuals to collect and populate this information. Respondents agreed that they would continue to update the electronic database as the number of residence with "known" service line types are identified.
- 4. *Respondents have not adequately demonstrated (e.g., using daily sampling information) that they are maintaining chlorine residual in the distribution system (Paragraph 57) or continuing to add corrosion inhibitors at levels sufficient to re-optimize corrosion control in the distribution system (Paragraph 58).*
  - a. Paragraphs 57 and 58 are ongoing requirements. The Order requires Respondents to report on their compliance in required Weekly Reports (starting on January 28, 2016). Prior to our discussion last week, Respondents had been providing summary information in Monthly reports. In Respondents' first submittal on January 31, 2016, the information was only current through December 2015. Then, in Respondents' Weekly Report submitted on February 7, 2016 (due on February 4, 2016), Respondents updated monitoring data in a Monthly report through January 2016. EPA has requested that Respondents provide this

information weekly (not wait until the next Monthly report is prepared). Respondents must submit Weekly Reports on each Thursday going forward.

- b. In addition, during the meeting on February 10, 2016, EPA raised concerns regarding the sufficiency of the sampling sites for assessing chlorine residual in the distribution system. EPA's ORD has been working with the City of Flint to assess representative sample site locations that will ensure that chlorine residual will be found throughout the distribution system. Respondents should continue this effort started by EPA's ORD.
5. *Respondents have not provided plans and schedules to ensure the treatment plant is consistently and reliably meeting plant performance criteria (Paragraph 59(a)).*
- a. At the February 10, 2016 meeting, the City of Flint indicated that it thought its February 4, 2016 one-page response to Paragraph 59(a) addressed the Order requirement. Respondents further questioned this requirement because they indicated the City is not actively running a treatment plant and treating water. EPA disagreed that the original documents available on the MDEQ website were responsive. EPA also disagrees with the assessment that the City is not actively running a treatment plant and treating water, as the City is adding orthophosphate and chlorine to the system to enhance treatment.
  - b. Respondents have argued that such plans responding to Paragraphs 59(a) will only be due when the City switches to the KWA source water. EPA again indicated that it disagrees with this position, as Respondents must ensure the treatment plant is consistently and reliably meeting all treatment requirements before the distribution of KWA source water to the Flint distribution system is allowed.
  - c. During the February 10, 2016 meeting, EPA discussed with Respondents that the interactions between Respondents and the EPA Flint Task Force must be consolidated to a single location. The proper place for the location of the response is on the Respondents' website.
6. *Respondents have not submitted a plan for daily monitoring of water quality parameters in the distribution system (Paragraph 59(b)).*
- a. MDEQ has posted on its website the weekly monitoring parameters and location of sampling sites for the City of Flint. However, Respondents have not submitted a plan for how sampling is conducted, how results are quality assured and quality controlled, nor how results are evaluated.
  - b. During the February 10, 2016 meeting, EPA discussed with Respondents that the interactions between Respondents and the EPA Flint Task Force must be consolidated to a single location. The proper place for the location of the response is on the Respondents' website.
7. *Respondents have submitted an inadequate operations plan for the corrosion control equipment and daily monitoring of finished water corrosion control parameters (Paragraph 59(c)).*
- a. Per the Order, the Corrosion Control plan was due by February 4, 2016. On February 4, 2016, Respondents posted a one-page "Corrosion Control Equipment

Plan”; however, as discussed during the meeting on February 10, 2016, this one page document was not adequate. Within the last week, Respondents have supplemented the information; however, EPA still finds the information provided to date as insufficient. The supplied information and the information listed below are data components of a plan, but do not necessarily constitute a complete plan. Information that should be contained in a comprehensive corrosion control plan includes, but is not limited to:

- i. Evaluating the effectiveness of treatment (in this case, orthophosphate addition);
- ii. Collecting data from a pipe rig/loop test;
- iii. Plan for extraction of lead service lines to run pipe rig/loop test;
- iv. Analyzing water quality parameters in the system, such as, lead, copper, pH, alkalinity, calcium, conductivity, water temperature, chlorine, and orthophosphate;
- v. Identifying constraints, such as, distribution system dead zones, consumer knowledge (including community outreach, public education, and consumer encouragement to flush lines daily, perhaps a “Heal the Pipes Campaign”), etc.;
- vi. Continued updating of known inventory of homes with lead service lines;
- vii. Incorporation of all water testing results to inform adequacy of plan;
- viii. Addresses of unoccupied homes;
- ix. Identification of funding to incorporate plan;
- x. Incorporation of Sentinel site selections;
- xi. Long term operations and maintenance of corrosion control equipment and chlorine addition equipment;
- xii. Long term evaluation of corrosion control;
- xiii. Plans and/or schedules for lead service line removal and replacement;
- xiv. Adequate numbers of staff to operate system; and
- xv. Staff training.

8. *Respondents submitted a list of staff, but have not adequately demonstrated the City has the necessary, capable and qualified personnel required to perform the duties and obligations required to ensure the public water system complies with the SDWA and the National Primary Drinking Water Regulations (Paragraph 61).*

- a. On February 4, 2016, Respondents submitted an inadequate response. On February 12, 2016, Respondents provided supplemental information that more clearly identifies the gaps in City staffing. According to the City’s organizational chart and staffing plan, there are 26 positions identified for the Water Treatment Plant and 37 positions identified for the Water Service Center (collectively the treatment plant and distribution system), for a total of 63 identified positions the City expects it needs to effectively operate and maintain a water treatment plant and distribution system.
- b. The City currently employs 17 people to operate the Water Treatment Plant and 27 people to operate the Water Service Center, for a total of 44 employees.
- c. The City should immediately take steps to fill identified vacant City Water positions.

- d. In addition to the information already provided for current source water treatment and distribution, the City should provide a list of additional duties and staff that will be necessary to treat and distribute new source water (i.e. KWA source water) while ensuring compliance with Safe Drinking Water Act and National Primary Drinking Water Regulations.
  - e. The City should provide a notification to EPA of all personnel changes that will impact the City's ability to comply with the Order.
  - f. The City has not provided information in regards to how it utilizes consultants to fill some essential City tasks, such as Design Engineer or City Engineer, as agreed to at the February 10<sup>th</sup> meeting.
9. *Respondents have not yet provided a list of the "Independent Advisory Panel" membership (Paragraph 63).*
- a. Prior to February 12, 2016, MDEQ had not provided the list of members of the Independent Advisory Panel (IAP) to its website. That list was added to the website on February 12, 2016. However, EPA remains concerned that members of the IAP appear to be primarily public officials and health professionals. While both of those functions are important in advising the City on its future operation of the public water system, EPA finds the lack of technical operations experts, water treatment experts, and construction experts on the panel troubling.
  - b. EPA is concerned that identified members of the IAP may no longer be in the role indicated on the IAP member list.
10. *Respondents must identify the 25 sites within the distribution system for which water quality parameter measurements are taken (Paragraph 53(a)).*
- a. This requirement was due on February 4, 2016. Respondents at that time provided information on only 10 sampling sites. As of February 12, 2016, Respondents have added the requested list of 25 sites within the distribution system to its website.
11. *Respondents must confirm they have identified all of the areas in the City of Flint with elevated blood lead levels (Paragraph 53(c)).*
- a. This requirement was due on February 4, 2016. Respondents provided information on the February 4, 2016; however, EPA had questions about the data provided. As of February 12, 2016, Respondents have added an explanation of the zip codes to its website that responds to these concerns.