
From: Shekter Smith, Liane (DEQ)
Sent: Tuesday, April 30, 2013 1:00 PM
To: Sygo, Jim (DEQ)
Subject: FW: KWA update

fyi

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-373-9523

From: Prysby, Mike (DEQ)
Sent: Tuesday, April 30, 2013 12:58 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ)
Cc: Busch, Stephen (DEQ)
Subject: KWA update

Steve has received word from John O'Malia that Ed Kurtz will be releasing a press statement....stating that the city of Flint will be joining the KWA. Genesee County and the city would like to meet with ODWMA staff on May 14th to discuss concerns regarding how DWSD may attempt to recover "sunken" costs and continued water service up to the time that KWA goes on-line. Steve and I informed Mary Beth Thelen for an update to the Director regarding this latest development for further discussion in the event that additional concerns are foreseen.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 335-6122

From: Shaler, Karen (DEQ)
Sent: Wednesday, October 01, 2014 10:33 AM
To: Thelen, Mary Beth (DEQ)
Cc: Sygo, Jim (DEQ)
Subject: RE: Draft Governors Briefing - Flint Water
Attachments: Governor Briefing - City of Flint 10-1-14.docx; Governor Briefing - City of Flint 10-1-14.pdf

Importance: High

Attached are the Word and PDF versions of the briefing paper. Note that the briefing refers to ODWMA's policy and procedure that needs to be forwarded to the Governor's office with the briefing but not the monthly pumpage comparison chart that Steve attached to his e-mail. See the highlighted text, below, for a description of that chart.

From: Thelen, Mary Beth (DEQ)
Sent: Wednesday, October 01, 2014 9:24 AM
To: Sygo, Jim (DEQ); Shaler, Karen (DEQ)
Subject: FW: Draft Governors Briefing - Flint Water
Importance: High

Director asked that I send this to the Governor as soon as possible today.

Karen, can you please proof this morning and fix up a bit? Director said it was fine to send as is but I told him we would review first. Can you please help me with this, this morning? I can send out. **(just the Word Document to fix up)**

Thanks.

Mary Beth

Mary Beth Thelen
 Management Assistant to Director Dan Wyant
 Department of Environmental Quality
 Constitution Hall, 6th Floor South
 Phone: 517-284-6712 or 284-6700 (new numbers)
 Fax: 517-241-7401
Thelenm2@michigan.gov

From: Busch, Stephen (DEQ)
Sent: Tuesday, September 30, 2014 12:37 PM
To: Thelen, Mary Beth (DEQ); Wyant, Dan (DEQ)
Cc: Benzie, Richard (DEQ); Prysby, Mike (DEQ); Wurfel, Brad (DEQ); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ)
Subject: Draft Governors Briefing - Flint Water

Director Wyant,

Attached is our draft of a briefing for the Governor's Office regarding City of Flint water system boil water advisories. This is per your request following our meeting last Thursday 9/25.

I have also attached a copy of the policy ODWMA-399-022 which specifically provides guidance regarding boil water advisory situations, and a chart showing the significant increase in the City of Flint's water demands following the extreme conditions experienced this past winter.

If you have any questions or need any additional information, I will be in Lansing this week on Thursday afternoon and Friday morning, and as always you can reach me on my cell phone as listed below.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ

PPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

GOVERNOR'S OFFICE BRIEFING PAPER CITY OF FLINT DRINKING WATER

What contributed to the Boil Water Advisories in the city of Flint?

A number of factors, not one specific cause, likely contributed to the Boil Water Advisories (BWAs) in the city of Flint during August and September 2014. While use of the Flint River has increased the amount of natural organic matter in the city's water, the Flint Water Treatment Plant (WTP) has performed well above treatment requirements for organic carbon removal. In addition, less than 20 percent of the water system was included in the advisory area. If treatment had been compromised, detections would have been widespread throughout the city, rather than in such a localized area.

The city's water distribution system has suffered from a lack of infrastructure investment and asset management. Most of the city's over 550 miles of water mains are now over 75 years old and constructed of cast iron piping. Cast iron pipe is subject to internal corrosion, called tuberculation, which causes buildup on the pipe interior, leading to water quality issues, reduced flow and pressures, and leakage. Tuberculation also encourages the development of biofilms, layers of bacteria that attach to the interior pipe wall. Biofilm growth is common in areas of piping with little or no disinfectant residual, and together with tuberculation can clog water lines to the point of insufficient water pressure.

The city has also experienced decades of a declining user base and water use associated with vacant homes, commercial businesses, and industrial property. Declining water use leads to excess residence time within the city's distribution pipes and water storage facilities, accelerating tuberculation, biofilm growth, and disinfectant residual degradation. While the city has recently seen an infusion of funding for blight removal, contractors completing this work have been improperly using fire hydrants, causing hydraulic disturbances that dislodged and suspended settled debris, which may have contributed to the bacterial contamination.

The winter of 2014 was also one of the coldest experienced by the water system. The city, which historically has unaccounted water losses of over 30 percent, has seen even greater losses since February 2014 due to an increase in cold weather-related water main breaks and leaks. The city lacks a formal maintenance program for its over 7,250 valves, which would normally be used to limit impacts during break repairs. Two valves on the transmission line used to supply the area of the BWAs were found to be closed during the city's investigation, causing longer residence time, reduced disinfectant residual, reduced flow, and reduced pressure. One of these valves has remained broken.

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City of Flint Drinking Water
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The BWAs also occurred during the warmest and, for 2014, relatively wet periods of August and September. Warm weather conditions are not only more conducive to bacterial growth but also degrade the water's disinfectant residual carried out from the WTP more quickly. Longer residence times, biofilms, and tuberculation also contribute to disinfectant residual degradation. Warm wet weather conditions also allow water contaminated with bacteria to pool around piping with leaks and breaks.

Process for Issuance and Cancellation of a Boil Water Advisory

There are a number of conditions that can trigger BWAs. This includes the following:

- Bacteria Monitoring Detections
- Bacteria Standards Violations
- Treatment System Failures
- Waterborne Disease Outbreaks
- Loss of System Pressure
- Water Main Breaks
- Other Interruptions in Service

The Department of Environmental Quality (DEQ) has developed a policy and procedure regarding BWAs to help guide staff, provide consistency, and maintain public health. A PDF of Policy and Procedure No. ODWMA-399-022 is being forwarded with this briefing paper.

BWAs may be self-initiated by the water system, issued collaboratively in consultation with the DEQ, or when necessary mandated by the DEQ. Requesting customers to boil the water when bacterial contamination has occurred provides an added barrier of public health protection.

The BWAs that recently occurred in the city of Flint were associated with bacteria monitoring detections and violations of bacteria standards. These advisories were issued by the city of Flint collaboratively in consultation with the DEQ.

Current regulations regarding monitoring and standards for bacteria in water distribution systems were developed by the U.S. Environmental Protection Agency, have been in effect since 1990, and were incorporated into the Michigan Safe Drinking Water Act, 1976 PA 399, as amended. There are a variety of bacteria, parasites, and viruses that can potentially cause health problems if humans ingest them in drinking water. Testing water for each of these potential pathogens would be difficult and expensive. Instead, water systems test for total coliform and *E.coli*. Total coliform bacteria react to water treatment in a manner similar to many pathogens. Therefore, the presence of total coliform in drinking water indicates there may be a pathway for pathogens or other contaminants to enter the system. The absence of total coliforms in the distribution system minimizes the likelihood that pathogens are present. *E.coli* is itself a pathogen, and its detection would be direct evidence of a health risk.

Once a BWA has been issued, time is needed to investigate potential causes and implement corrective measures. The larger the water system, the more time this may take. Once corrective measures have been taken, samples must be collected and

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analyzed to confirm that bacteria are no longer present. Using the most common analytical method, samples must be incubated for a period of 24 hours before results can be obtained. In situations where the bacterial contamination has been confirmed, two consecutive rounds of safe samples collected at least 24 hours apart are normally obtained before canceling a BWA. Adding each of these steps together, a normal response period to cancel a BWA under these circumstances would be expected to take at least 3 to 4 days.

Recent History of the City of Flint Water System

Historically, the city of Flint had been a customer of the Detroit Water and Sewerage Department (DWSD) while simultaneously maintaining the Flint WTP to provide emergency backup service using the Flint River. The WTP performed quarterly test operations to maintain readiness and was utilized twice in 2009, supplying water once for 2 days and the other for 3 days.

In April 2013 the city of Flint notified the DWSD that it would be terminating service in the future and contracting for raw water service from the Karegnondi Water Authority (KWA). Work on the KWA pipeline from Lake Huron broke ground in June 2013 and is expected to be completed with connection in late 2016.

In August 2013 Rowe Professional Services Company completed an engineering proposal for improvements to the Flint WTP that would allow continuous operation of the WTP utilizing the Flint River in lieu of continuing service from the DWSD until completion of the KWA pipeline. In March 2014 the city of Flint entered into a Consent Agreement with the DEQ regarding the Flint WTP's lime sludge facility. In April 2014 the DEQ issued a construction permit for improvements to the Flint WTP. On April 25, 2014, the city of Flint began continuous operation of the WTP, using water from the Flint River and discontinued the purchase of water from the DWSD.

A BWA was issued for August 15-20, 2014, for a portion of the city of Flint due to localized detections of total coliform and *E.coli* bacteria. Another BWA was issued for September 5-9, 2014, due to localized detections of total coliform bacteria in the same and adjacent portions of the city of Flint. The advisory covered an area of approximately six square miles. The city of Flint has a total land area of just over 34 square miles.

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While many of the BWA contributing factors listed above require long-term solutions, the city has taken operational steps to limit the potential for a BWA to reoccur. The city has increased flushing of water mains to limit residence time, maintain disinfectant residual, and help remove buildup and deposits within the piping. The city is boosting chlorine disinfectant residual at locations in the distribution system as needed. The city continues to investigate water leaks and water main breaks and the status and condition of system valves.

Prepared by: Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
Department of Environmental Quality
October 1, 2014

DEPARTMENT OF ENVIRONMENTAL QUALITY

GOVERNOR'S OFFICE BRIEFING PAPER CITY OF FLINT DRINKING WATER

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The winter of 2014 was also one of the coldest experienced by the water system. The city, which historically has unaccounted water losses of over 30 percent, has seen even greater losses since February 2014 due to an increase in cold weather-related water main breaks and leaks. The city lacks a formal maintenance program for its over 7,250 valves, which would normally be used to limit impacts during break repairs. Two valves on the transmission line used to supply the area of the BWAs were found to be closed during the city's investigation, causing longer residence time, reduced disinfectant residual, reduced flow, and reduced pressure. One of these valves has remained broken.

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Prepared by: Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
Department of Environmental Quality
October 1, 2014

From: Shekter Smith, Liane (DEQ)
Sent: Tuesday, January 06, 2015 11:00 AM
To: Sygo, Jim (DEQ)
Cc: Shaler, Karen (DEQ)
Subject: FW: Flint NBC News Interview - Flint TTHMs
Attachments: TTHM NBC Interview Jan 5, 2015.doc

FYI

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543

From: Prysby, Mike (DEQ)
Sent: Tuesday, January 06, 2015 10:22 AM
To: Shekter Smith, Liane (DEQ); Wurfel, Brad (DEQ); Feuerstein, Heather (DEQ); Busch, Stephen (DEQ); Benzie, Richard (DEQ); Willard, Veronica (DEQ)
Subject: Flint NBC News Interview - Flint TTHMs

Attached is a summary of the interview I had with Flint NBC 25 News late yesterday.....sorry this summary is late as I am receiving incoming calls from Flint residents...

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

**Flint NBC 25 News Interview
Flint TTHMs
January 5, 2015**

Walter-Smith Randolph, reporter, from Flint NBC 25 News conducted a telephone interview with me for broadcast on Flint local television concerning the TTHM violation in Flint's drinking water. I led the interview and provided Mr. Randolph an opportunity for follow-up questions. Below is a summary of topics that were presented.

TTHM violation – What does this mean for Flint residents? The TTHM violation notice to residents is not an immediate public health emergency since the health-effects posted in the notice require long-term exposure to TTHMs (over a significant portion of an individual's lifespan). TTHMs commonly occur in public water systems that disinfect with chorine due to the reaction between chlorine and naturally occurring organic compounds (total organic carbon) in the source water. Surface water sources, including the Flint River watershed, typically have higher levels of naturally occurring organic compounds.

What is the DEQ's Role? The DEQ is working in collaboration with the city to ensure long-term public health protection and to keep the public informed. We are working with the city to help identify improvements in treatment and operation of the distribution system to reduce the levels of TTHMs. We are assisting the city with public notice requirements (when to post/contents). With our assistance, the city has proceeded with an operational evaluation of the water system ahead of state and federal requirements.

DEQ's perspective of the situation: The Flint River source is more difficult to treat since it requires more disinfection to maintain bacteriological intergrity. Increased disinfection; however, when combined with higher levels of naturally occurring organics results in elevated levels of TTHMs that form over time out in the distribution system. The TTHM concentrations that developed in the system were more than anticipated due to several reasons:

- 1. Flint did not immediately change their mode of distribution system operation after switching sources to account for higher TTHM formation potential of treated water from Flint's WTP.**

I explained that TTHMs require time to form and are not fully developed in the treated water that enters the distribution system from the WTP. Water from Detroit; however, is several days old when it reaches Flint; thus the majority of the TTHMs are developed. TTHMs were also lower given the source water (Lake Huron). Flint's historically operated the distribution system in a manner that created conditions favorable for stagnation. This methodology of operation was not changed (initially) when switching to the Flint River; thus, this condition was one of several factors contributing to higher levels of TTHMs. Other factors included; higher TTHM formation potential in the Flint River (already explained above) and higher chlorine application rates at treatment plant to maintain bacteriological integrity.

I further explained that TTHM levels in the most recent quarter have dropped for two main reasons:

1. Action taken by the city including; improving dist. system operation to reduce stagnation, treatment changes (complete softening), reduced chlorination, system flushing, valving improvements
2. Seasonal fluctuation of organic compounds in the Flint River. Less organic loading in the winter months.

END of MY DISCUSSION

Mr. Smith-Randolf asked for my comment to the following questions/statements....Why this problem is occurring in Flint? Is there a problem with the water system? This was not an issue when Flint was on Detroit water.

I responded by summarizing some of the key points discussed above including:

- Dist system operation (storage facilities and valving)
- TTHM formation potential in Flint River vs. Detroit and age of incoming water
- High chlorine dosages to maintain bacteriological integrity
- Treatment practices at WTP (partial by-pass of softening)

From: Prysby, Mike (DEQ)
Sent: Wednesday, January 07, 2015 11:02 AM
To: Datema, Maggie (DEQ); Sygo, Jim (DEQ); Shaler, Karen (DEQ); Shekter Smith, Liane (DEQ); Willard, Veronica (DEQ); Busch, Stephen (DEQ); Wurfel, Brad (DEQ)
Cc: Howes, Sarah (DEQ); Benzie, Richard (DEQ)
Subject: Meeting w Legislator
Attachments: TTHM Rep. Neeley Interview Jan 6, 2015.doc

Richard Benzie, Sarah Howes, and I met with State Representatives Sheldon Neeley, 34th District and Phil Phelps, 48th District to discuss the TTHM violation in the city of Flint late yesterday afternoon . Attached is a summary of our discussion.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

**Meeting with Rep. Neeley and Rep. Phelps
Flint TTHMs
January 6, 2015**

Richard Benzie, Sarah Howes, and I met with State Representatives Sheldon Neeley, 34th District and Phil Phelps 49th District to discuss the TTHM violation in Flint's drinking water. Several follow-up questions were asked during and after our discussion. Information provided to Mr. Neeley and Mr. Phelps was in a format similar to that provided in the NBC-25 News interview. We focused on:

What does the TTHM violation mean for Flint residents?

The violation does not pose an immediate public health threat since the health-effects requires long-term exposure to TTHMs (over a significant portion of an individual's lifespan).

TTHMs commonly occur in public water systems that disinfect with chlorine due to the reaction between chlorine and naturally occurring organic compounds (total organic carbon) in the source water.

Reason(s) for the violation:

The Flint River source is more difficult to treat since it requires more disinfection to maintain bacteriological integrity; however, this leads to more TTHM formation.

Flint did not immediately change their mode of distribution system operation after switching sources to account for higher TTHM formation potential of treated water from Flint's WTP. Historically, their mode of operation created areas of stagnation in the distribution system which then contributed to the higher levels of TTHMs.

Ongoing Efforts:

The city is working in collaboration with the DEQ towards identifying improvements in treatment to remove TTHM precursors and optimize distribution system operation. The city has already taken action on some of these measures including: complete softening to reduce chlorine dosage and increased turnover of water in the distribution system storage reservoirs to reduce stagnation. The city is also correcting valving deficiencies to further reduce stagnation.

The city has received scrutiny on the perceived delay to inform residents of the high TTHM levels; however, we stressed that the city has met the state and federal requirements for public notification of this particular contaminant. We explained the rationale for determining compliance with the TTHM standard and how this correlates to the public notification requirements. We also informed Mr. Neeley and Mr. Phelps, that TTHM compliance is determined on a RAA (based on 4 quarters); thus, the city will likely remain in violation even with one or two subsequent quarters producing results that are below the MCL.

We also suggested, in addition to meeting our public notification requirements, it may be helpful for the city to explain to their residents how compliance with TTHMs is determined and, more importantly, keep them informed (snapshot in time) of each quarter's results (regardless of compliance status).

Result of On-going Efforts

Efforts taken by the city resulted in a significant reduction of TTHMs in the November 2014 quarter. Seasonal fluctuation of organic loading in the Flint River watershed (less loading in the winter months) also contributed to lower TTHMs.

Questions that were asked:

Can the State become involved with additional TTHM monitoring (third party monitoring)? How would the cost be covered?

The city may elect to conduct additional TTHM monitoring; however, this would be at the city's expense. DEQ staff, depending on availability, may be able to assist in the monitoring. Additional monitoring could be eligible as part of future compliance calculations; however, the monitoring protocol must be approved by the DEQ.

Are the operators at the Flint WTP properly certified?

Yes. The city has an F-1 operator, Mike Glasgow who oversees treatment operation and is the designated OIC. There are also several F-2 operators including Brent Wright (WTP Supt.). The city has also hired additional operators for full-time plant operation. Many of these operators acquired their F-4 certification last fall.

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, January 07, 2015 2:27 PM
To: Sygo, Jim (DEQ); Datema, Maggie (DEQ); Howes, Sarah (DEQ)
Cc: Benzie, Richard (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Subject: FW: Public Works Meeting

FYI

From: Prysby, Mike (DEQ)
Sent: Wednesday, January 07, 2015 2:18 PM
To: Howard Croft (hcroft@cityofflint.com)
Cc: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Wurfel, Brad (DEQ); Shekter Smith, Liane (DEQ)
Subject: Public Works Meeting

Howard,

This note confirms my telephone discussion with you today. The city has scheduled a Public Works Committee at 5pm today and the TTHM violation is on the agenda. The meeting will be open to the public and will also have media coverage. Given the timing of the meeting (today at 5pm) the DEQ will not be able to participate. The DEQ is willing to participate in a future public meeting (in the next one to two weeks). Please notify us of the next planned meeting(s) and request the department's participation to help answer questions and/or to speak on specific items pertaining to this issue. Please send the request to me so I can organize our participation. If you have any further questions, please call me at your earliest convenience.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Shaler, Karen (DEQ)
Sent: Friday, January 09, 2015 1:14 PM
To: Sygo, Jim (DEQ)
Subject: FW: DIR00004 Warner / Water toxins in Flint MI
Attachments: ODWMA 15 DIR00004\ Warner.pdf

FYI

From: DEQ-LogLetter
Sent: Friday, January 09, 2015 11:36 AM
To: Willard, Veronica (DEQ)
Cc: Thelen, Mary Beth (DEQ); Shaler, Karen (DEQ)
Subject: DIR00004 Warner / Water toxins in Flint MI

Assigned to ODWMA

Letter Buckslip

09-Jan-15

ID:	DIR00004	Deputy Director _____ Deputy's Mgmt. Asst. _____ Director's Office Staff _____ Division/Office Chief _____ Division/Office Chief's Mgmt. Asst. _____ Prepared by: _____ Division/Office _____ Exec. Div. File No. _____ ☐ Delogged
Date of letter:	1/6/2015	
Date received:	1/7/2015	
Date due:	1/14/2015	
Reply date:		
Last name:	Warner	
First name:	Patricia L.	
Organization:		
Subject:	Water toxins in Flint MI	
Reply to:		
Author:		
Owner:	OLSZEWSKIR	

Action	Action Date	Due Date	Entity	Signature	Owner	CCs
Assigned 1	1/9/2015	1/14/2015	ODWM A	RD	OLSZEWSKIR	Thelen Shaler

Comments: Original to ODWMA

DIR 00004

Thelen, Mary Beth (DEQ)

From: Thelen, Mary Beth (DEQ)
Sent: Friday, January 09, 2015 10:46 AM
To: Shekter Smith, Liane (DEQ)
Cc: Willard, Veronica (DEQ); Shaler, Karen (DEQ)
Subject: FW: Constituent Inquiry

Hi Liane, please scroll down to the bottom of this email. Could you please have the appropriate staff respond to this constituent as appropriate?

Please let me know if I need to make the Director aware of this particular note, or Brad.

Thank you.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelenm2@michigan.gov

From: Daniell, Sharon (DCH)
Sent: Wednesday, January 07, 2015 9:15 AM
To: Thelen, Mary Beth (DEQ)
Subject: Constituent Inquiry

Hi Mary Beth,

This was forwarded to me by Nancy Grijalva in the DCH Director's Office. In checking with our Public Health Administration, they indicated this should be reviewed/responded to by DEQ. Could you please forward to the appropriate person in your Department?

Thanks for your help. If you have any questions, please let me know.

Sharon K. Danieli
Secretary
Director's Office
Michigan Department of Community Health
Phone: (517) 335-0633
Fax: (517) 373-4288
Email: danielis@michigan.gov

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From: stixdesign [mailto:stixdesign@sbcglobal.net]
Sent: Tuesday, January 06, 2015 11:09 AM
To: Grijalva, Nancy (DCH)
Subject: water toxins in Flint, MI

Greetings,

I wrote to the CDC regarding Flint's failure to meet safe quality standards. We were sent a notice on Friday warning of potential health risks. A second notice is forthcoming. Citizens are beyond angry and fearful and it's going viral. Articles can be found on Mlive. The CDC said they could investigate, but the request would have to come from the state. They urged me to contact you. I look forward to hearing from you. The reporter covering this story is Ron Fonger at rfonger@mlive.com

Thank you,
Patricia L. Warner
810 - 919 - 7487

From: Shekter Smith, Liane (DEQ)
Sent: Monday, January 12, 2015 5:40 PM
To: Sygo, Jim (DEQ); Kasprzak, Jim (DEQ); Epkey, Amy (DEQ); King, Kevin (DEQ)
Cc: Shaler, Karen (DEQ)
Subject: FW: Facility Notification: Flint State Office Building

Just a heads up.

I wanted to share with you a note that Richard sent in response to the notice from DTMB (scroll to bottom). The decision to provide bottled water when the public notice was not a "do not drink" causes us some concern.

Liane

From: Benzie, Richard (DEQ)
Sent: Monday, January 12, 2015 1:02 PM
To: Prysby, Mike (DEQ); Wolf, Jennifer (DEQ); Doll, Jeanette (DTMB); Busch, Stephen (DEQ)
Cc: VanOtteren, Bruce (DNR); Shekter Smith, Liane (DEQ)
Subject: RE: Facility Notification: Flint State Office Building

I have several questions about this matter. Why does "public traffic" deserve a higher consideration than concern for state workers? How does that reasoning appear to state employees? A visitor may take one drink of water from this site in their lifetime. State workers (like any employees) may get half of the water they consume each day at their place of employment. Which group faces the greater health risk from drinking water in state occupied premises? Are other state owned/occupied facilities in Flint being provided with the same service? How about a Secretary of State's offices or the DHS facilities? Are there any state correctional facilities that receive drinking water from Flint?

What would DTMB have done if the problem had occurred in Lansing? Would the state of Michigan be providing bottled water or an alternate supply of drinking water to all of the state owned or state employee locations that receive Lansing drinking water and allow public access? Who would make that decision? Why wouldn't that decision maker seek the advice of the Office of Drinking Water and Municipal Assistance before deciding? Would it be building by building or one decision be made for state facilities?

How does this action by DTMB impact the answer when ODWMA district staff are asked by others in the media or from the general public about whether Flint residents should continue to consume Flint's drinking water with elevated disinfection byproducts? No doubt it will make it more difficult from a perception standpoint for ODWMA staff.

If this matter were about an acute health threat, such as E.coli or nitrates, then I would applaud the decision. But when we are dealing with a chronic health threat in a community water system, I think the appropriate action is to ensure public awareness and education, establish a reasonable compliance schedule, and allow individuals to make personal choices if they wish. And if someone like GM or the State of Michigan decides to implement such measures as supplying an alternate water supply for a chronic health threat that should be of a limited duration, fine, but it should be uniformly implemented.

If DTMB would like to meet to discuss this issue and procedures for communication and possible actions in future, similar events, we would be willing to participate.

Richard Benzie, P.E., Chief
Field Operations Section
Office of Drinking Water and Municipal Assistance, MDEQ
517-284-6512

From: Prysby, Mike (DEQ)
Sent: Monday, January 12, 2015 10:22 AM
To: Wolf, Jennifer (DEQ)
Cc: VanOtteren, Bruce (DNR); Doll, Jeanette (DTMB); Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ)
Subject: RE: Facility Notification: Flint State Office Building

Jennifer,

I spoke with Jeanette this morning. She informed me....given that this state building has high public traffic (Flint citizens); it was felt prudent to offer an alternative supply of drinking water to citizens entering the building. Jeanette asked me what should be expected with the next round of samples (March time-frame). I explained to her how compliance with TTHMs is determined (based on a running annual average of 4 quarters) and the public notification requirements. The city's next round of samples will be collected around the 3rd week of Feb; however, regardless of sample results, compliance with the TTHM MCL will not be re-achieved due to the high levels detected last summer. Although the city will remain out of compliance, (primarily based on the previous results), the November sample results were substantially lower (7 of 8 locations below the MCL). We anticipate that most (if not all) locations will be in compliance with the February monitoring. The city; however, needs to make a diligent effort to convey TTHM status to their residents as soon as possible after new results become available (regardless of compliance status). Jeanette will pass this information on.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Wolf, Jennifer (DEQ)
Sent: Friday, January 09, 2015 10:42 AM
To: Prysby, Mike (DEQ)
Cc: VanOtteren, Bruce (DNR); Doll, Jeanette (DTMB)
Subject: FW: Facility Notification: Flint State Office Building

Hi Mike!

Are you handling this one? If so are you able to address Jeanette's below?

SGT. JEN WOLF

MI DEPT. OF ENVIRONMENTAL QUALITY

MI DEPT. OF NATURAL RESOURCES

LAW ENFORCEMENT DIVISION

EMERGENCY MANAGEMENT

DESK: 517-284-6231

CELL: PPI

From: Doll, Jeanette (DTMB)
Sent: Friday, January 09, 2015 7:33 AM
To: VanOtteren, Bruce (DNR); Wolf, Jennifer (DEQ)
Subject: FW: Facility Notification: Flint State Office Building

Good morning!

My phone call was referencing the advisory our Real Estate Division received from the City of Flint. Just wanted to know if we would know sooner than March 1 on the TTHM levels.

Jeanette

From: DTMB Facilities [<mailto:dtmb@govsubscriptions.michigan.gov>]
Sent: Wednesday, January 07, 2015 11:49 AM
To: Doll, Jeanette (DTMB)
Subject: Facility Notification: Flint State Office Building



Flint Water Advisory

Date/Time:

Effective Wednesday, January 7, 2015

Details:

The City of Flint recently sent out the attached notice regarding violations to the

drinking water standards. While the City of Flint states that corrective actions are not necessary, DTMB is in the process of providing a water cooler on each occupied floor, positioned near the water fountain, so you can choose which water to drink. The coolers will arrive today and will be provided as long as the public water does not meet treatment requirements.

- [Flint Water.pdf](#)

Contact:

DTMB Customer Service Center, DTMB-Customerservice@michigan.gov or (517) 373-6227

	Since we spend about 40 hours a week at our workplaces, isn't the office the best place to try out some new energy-saving tricks? The Energy Information Administration estimates that if commercial and industrial buildings improved their energy efficiency by 10 percent, our economy could see yearly savings of nearly \$20 billion.
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This email was sent to dolij@michigan.gov using GovDelivery, on behalf of DTMB - Lewis Cass Building - 320 South Walnut Street
Lansing, MI 48205 (517) 373-1004

From: Busch, Stephen (DEQ)
Sent: Wednesday, January 21, 2015 10:50 AM
To: Shekter Smith, Liane (DEQ); Wurfel, Brad (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Cc: Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)
Subject: RE: Flint Mayor request to Governor regarding Flint Water
Attachments: Flint Mayor Letter to Governor.pdf

Copy attached.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, January 21, 2015 10:41 AM
To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Cc: Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)
Subject: RE: Flint Mayor request to Governor regarding Flint Water

First I heard about the letter was on NPR this morning.

From: Wurfel, Brad (DEQ)
Sent: Wednesday, January 21, 2015 10:39 AM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Cc: Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)
Subject: RE: Flint Mayor request to Governor regarding Flint Water

Ooops. Thanks.

Need a copy of the letter if we have it. Want to make sure the Governor's office knows to send calls about this to us, and give them a quick briefing on the situation.

Thanks.

b

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, January 21, 2015 10:37 AM
To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Cc: Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)
Subject: RE: Flint Mayor request to Governor regarding Flint Water

That is the first option listed.

Changes made to date have reduced the formation of DBPs; but because of the way the standard is calculated the violation is anticipated to remain until at least late summer. However, it is difficult to predict whether the operational

changes will be effective enough to address seasonal water quality changes that occur during the summer. It is possible to have a spike in August that could cause the city additional problems. But for now, all indications are that DBP levels in the distribution system are within an acceptable range.

From: Wurfel, Brad (DEQ)

Sent: Wednesday, January 21, 2015 10:31 AM

To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)

Cc: Datema, Maggie (DEQ); Howes, Sarah (DEQ); Sygo, Jim (DEQ)

Subject: RE: Flint Mayor request to Governor regarding Flint Water

Would a third option be to make adjustments to the plant that address the current water supply effectively?

From: Shekter Smith, Liane (DEQ)

Sent: Wednesday, January 21, 2015 10:26 AM

To: Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)

Cc: Datema, Maggie (DEQ); Howes, Sarah (DEQ); Wurfel, Brad (DEQ); Sygo, Jim (DEQ)

Subject: RE: Flint Mayor request to Governor regarding Flint Water

In light of the Mayor's letter, this could be quite uncomfortable for us tonight.

Our position has always been that we do not dictate which acceptable option(s) a water supply may choose. Our responsibility is to see that operations are managed properly, regulations are met, and safe water is delivered. For example, when Flint decided to leave Detroit and operate using the River, our role wasn't to tell them our opinion; only what steps would be necessary to make the switch.

Now that there is a violation of a drinking water standard, we have been treating Flint as we would any other supply. It is up to them to propose a solution/corrective action. Our role is to determine the reasonableness of that proposal. One option available to them is to continue to use the river until the KWA source is available as long as they implement operational changes to mitigate the formation of DBPs. Another acceptable option is to return to Detroit (GLWA) until the KWA source is available. And third option could certainly be returning to GLWA permanently.

The Mayor is saying that since there is an EM, the state (Governor) has responsibility for decisions being made (not our position). It will be very important for DEQ staff to limit our discussion to our role under the Safe Drinking Water Act. Hopefully, the EM will be prepared to respond if and when the conversation veers off into this other arena.

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543

From: Busch, Stephen (DEQ)

Sent: Wednesday, January 21, 2015 8:41 AM

To: Shekter Smith, Liane (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)

Cc: Datema, Maggie (DEQ); Howes, Sarah (DEQ)

Subject: Flint Mayor request to Governor regarding Flint Water

FYI. Please see the link below. The mayor of Flint has requested the state provide assistance through a number of specific initiatives.

http://www.mlive.com/news/flint/index.ssf/2015/01/flint_mayor_asks_governor_for.html

As we are scheduled to participate in the meeting in Flint this evening please let me know if we need to further discuss these requests.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, January 28, 2015 2:15 PM
To: Sygo, Jim (DEQ)
Subject: FW: Drinking Water Revolving Fund loans - City of Flint
Attachments: CityofFlint_DWRF_Loans.xlsx

FYI

From: Butler, Sonya (DEQ)
Sent: Wednesday, January 28, 2015 10:48 AM
To: Epkey, Amy (DEQ)
Cc: Shekter Smith, Liane (DEQ); Tetzlaff, Katherine (DEQ)
Subject: RE: Drinking Water Revolving Fund loans - City of Flint

The loan terms are all 20 years. Payments are made twice a year April & October. Loan repayment information comes from Treasury. See the attached for details.

From: Epkey, Amy (DEQ)
Sent: Wednesday, January 28, 2015 10:38 AM
To: Butler, Sonya (DEQ)
Cc: Tetzlaff, Katherine (DEQ)
Subject: FW: Drinking Water Revolving Fund loans - City of Flint

Sonya,

Please see the email below from the Senate Fiscal Agency. Could you please follow-up on the request and provide me with a response?

Thanks,
Amy

From: Josh Sefton [<mailto:jsefton@senate.michigan.gov>]
Sent: Wednesday, January 28, 2015 10:36 AM
To: Epkey, Amy (DEQ)
Subject: Drinking Water Revolving Fund loans - City of Flint

Hi Amy,

I received a question regarding the four funded DRF loans that the City of Flint has. The loans total about \$42.9 million- would you ask the program for me for the amount the City pays each year to service these loans, the interest rate and terms of those loans, and the total repayments to date?

Thank you!
Josh

	A	B	C	D	E	F	G
1	Drinking Water Revolving Fund						
2	City of Flint As of 1/27/2015						
3	Issue Date	Project Number	Rate	Final Loan Amount	Final Maturity	Last Payment	Outstanding Balance
4	9/30/1999	7019-01	2.50%	7,168,994.00	4/1/2020	10/1/2014	2,543,994.00
5	9/28/2000	7019-02	2.50%	8,035,000.00	4/1/2021	10/1/2014	3,275,000.00
6	9/28/2001	7019-03	2.50%	9,311,408.00	4/1/2022	10/1/2014	4,256,408.00
7	9/25/2003	7019-04	2.50%	18,984,934.00	10/1/2024	10/1/2014	10,694,934.00
8				43,500,336.00			20,770,336.00

From: Butler, Sonya (DEQ)
Sent: Friday, January 30, 2015 3:02 PM
To: Shekter Smith, Liane (DEQ); Sygo, Jim (DEQ)
Subject: FW: Flint
Attachments: FlintLoanSummary_DEQ_DS.xlsx

Here is a summary on Flint loans from Treasury.

From: Mullett, Ann Marie (Treasury)
Sent: Friday, January 30, 2015 2:35 PM
To: Butler, Sonya (DEQ)
Subject: RE: Flint

Hi Sonya,

Please view the attached. I included the loan amortization schedules, so you can see what the future payments are.

Thank you and have a good weekend. AMM

Ann Marie Mullett
Bureau of State and Authority Finance
430 W Allegan Street, 1st Floor
Lansing, MI 48922
Phone: (517) 373-1557
Fax: (517) 241-1233
mulletta@michigan.gov

From: Butler, Sonya (DEQ)
Sent: Tuesday, January 27, 2015 2:23 PM
To: Mullett, Ann Marie (Treasury)
Subject: RE: Flint

Thanks Ann Marie!!

From: Mullett, Ann Marie (Treasury)
Sent: Tuesday, January 27, 2015 2:21 PM
To: Butler, Sonya (DEQ)
Cc: Bowman, Matthew (Treasury); Barton, John (Treasury)
Subject: RE: Flint

Good Afternoon,

Please view the attached and let me know if you need anything further.

Thank you and have a good day. AMM

Ann Marie Mullett
Bureau of State and Authority Finance
430 W Allegan Street, 1st Floor

Lansing, MI 48922
Phone: (517) 373-1557
Fax: (517) 241-1233
mulieta@michigan.gov

From: Butler, Sonya (DEQ)
Sent: Tuesday, January 27, 2015 1:56 PM
To: Mulieta, Ann Marie (Treasury)
Subject: FW: Flint

Ann Marie

Can you get me the outstanding balances on the loans below? My DEQ communications person needs this information for a meeting in the governor's office.

From: Butler, Sonya (DEQ)
Sent: Tuesday, January 27, 2015 1:51 PM
To: Wurfel, Brad (DEQ)
Subject: Flint

Brad

Flint has 4 DWRF loans. They are noted below:

Project #	Loan date	Loan Amount
7019-01	9/3/1999	\$7.2M
7019-02	8/31/2000	\$8M
7019-03	9/7/2001	\$9.5M
7019-04	9/4/2003	\$19.2M

I do not have the outstanding balances. Treasury will have that information.

Sonya T. Butler, Chief
Revolving Loan Section
Office of Drinking Water & Municipal Assistance
Michigan Department of Environmental Quality
525 W. Allegan | Lansing, MI 48933
☎ 517.284.5401



	J	K	L	M
1				
2				
3	Date	Principal	Interest	Total Pymt
4	4/1/2014	385,000.00	36,612.43	421,612.43
5	10/1/2014	-	31,799.93	31,799.93
6	4/1/2014	425,000.00	46,250.00	471,250.00
7	10/1/2014	-	40,937.50	40,937.50
8	4/1/2014	475,000.00	59,142.60	534,142.60
9	10/1/2014	-	53,205.10	53,205.10
10	4/1/2014	-	144,999.18	144,999.18
11	10/1/2014	905,000.00	144,999.18	1,049,999.18
12		\$2,190,000.00	\$557,945.91	\$2,747,945.91

	B	C	D	E	F	G	H
2							
3							
4	MICHIGAN MUNICIPAL BOND AUTHORITY						
5	<i>FINAL DRINKING WATER PROGRAM SCHEDULE</i>						
6	<i>City of Flint Project# 7019-01</i>						
7	<i>Issue Date: 9/30/99</i>						
8							
9	Loan Summary						
10							
11							
12							
13							
14	Date	Principal	Interest (2.50%)	Debt Service	Annual Debt Service	Disbursements	Outstanding Balance
15							
16							
17	11/05/1999	-	-	-	-	781,865.00	781,865.00
18	12/23/1999	-	-	-	-	51,032.00	832,897.00
19	02/16/2000	-	-	-	-	47,285.00	880,182.00
20	04/01/2000	-	8,422.31	8,422.31	8,422.31	-	880,182.00
21	03/09/2000	-	-	-	-	431,582.00	1,311,764.00
22	06/30/2000	-	-	-	-	-	1,311,764.00
23	07/27/2000	-	-	-	-	1,278,844.00	2,590,608.00
24	10/01/2000	-	22,740.16	22,740.16	-	-	2,590,608.00
25	11/01/2000	-	-	-	-	2,728,748.00	5,319,356.00
26	04/01/2001	285,000.00	60,807.06	345,807.06	368,547.22	-	5,034,356.00
27	06/30/2001	-	-	-	-	-	5,034,356.00
28	10/01/2001	-	62,929.45	62,929.45	-	-	5,034,356.00
29	12/03/2001	-	-	-	-	1,849,638.00	6,883,994.00
30	04/01/2002	290,000.00	78,086.21	368,086.21	431,015.66	-	6,593,994.00
31	06/30/2002	-	-	-	-	-	6,593,994.00
32	10/01/2002	-	82,424.93	82,424.93	-	-	6,593,994.00
33	04/01/2003	295,000.00	82,424.93	377,424.93	459,849.85	-	6,298,994.00
34	06/30/2003	-	-	-	-	-	6,298,994.00
35	10/01/2003	-	78,737.43	78,737.43	-	-	6,298,994.00
36	04/01/2004	305,000.00	78,737.43	383,737.43	462,474.85	-	5,993,994.00
37	06/30/2004	-	-	-	-	-	5,993,994.00
38	10/01/2004	-	74,924.93	74,924.93	-	-	5,993,994.00
39	04/01/2005	310,000.00	74,924.93	384,924.93	459,849.85	-	5,683,994.00
40	06/30/2005	-	-	-	-	-	5,683,994.00
41	10/01/2005	-	71,049.93	71,049.93	-	-	5,683,994.00
42	04/01/2006	315,000.00	71,049.93	386,049.93	457,099.85	-	5,368,994.00
43	06/30/2006	-	-	-	-	-	5,368,994.00
44	10/01/2006	-	67,112.43	67,112.43	-	-	5,368,994.00
45	04/01/2007	325,000.00	67,112.43	392,112.43	459,224.85	-	5,043,994.00
46	06/30/2007	-	-	-	-	-	5,043,994.00
47	10/01/2007	-	63,049.93	63,049.93	-	-	5,043,994.00
48	04/01/2008	330,000.00	63,049.93	393,049.93	456,099.85	-	4,713,994.00

	B	C	D	E	F	G	H
2							
3							
4	MICHIGAN MUNICIPAL BOND AUTHORITY						
5	<i>FINAL DRINKING WATER PROGRAM SCHEDULE</i>						
6	<i>City of Flint Project# 7019-02</i>						
7	<i>Issue Date: 9/28/00</i>						
8							
9	Loan Summary						
10							
11							
12							
13							
14	Date	Principal	Interest (2.50%)	Debt Service	Annual Debt Service	Disbursements	Outstanding Balance
15							
16							
17	02/13/2001	-	-	-	-	853,203.00	853,203.00
18	04/01/2001	-	2,844.01	2,844.01	2,844.01	-	853,203.00
19	06/30/2001	-	-	-	-	-	853,203.00
20	08/10/2001	-	-	-	-	1,823,757.00	2,676,960.00
21	10/01/2001	-	17,124.18	17,124.18	-	-	2,676,960.00
22	02/05/2002	-	-	-	-	2,290,057.00	4,967,017.00
23	04/01/2002	315,000.00	42,367.78	357,367.78	374,491.96	-	4,632,017.00
24	04/22/2002	-	-	-	-	1,914,718.00	6,566,735.00
25	06/30/2002	-	-	-	-	-	6,566,735.00
26	10/01/2002	-	79,291.89	79,291.89	-	-	6,566,735.00
27	09/16/2002	-	-	-	-	678,027.00	7,244,762.00
28	04/01/2003	320,000.00	91,265.81	411,265.81	490,557.70	-	6,924,762.00
29	04/21/2003	-	-	-	-	475,238.00	7,400,000.00
30	06/30/2003	-	-	-	-	-	7,400,000.00
31	10/01/2003	-	91,839.95	91,839.95	-	-	7,400,000.00
32	04/01/2004	330,000.00	92,500.00	422,500.00	514,339.95	-	7,070,000.00
33	06/30/2004	-	-	-	-	-	7,070,000.00
34	10/01/2004	-	88,375.00	88,375.00	-	-	7,070,000.00
35	04/01/2005	340,000.00	88,375.00	428,375.00	516,750.00	-	6,730,000.00
36	06/30/2005	-	-	-	-	-	6,730,000.00
37	10/01/2005	-	84,125.00	84,125.00	-	-	6,730,000.00
38	04/01/2006	345,000.00	84,125.00	429,125.00	513,250.00	-	6,385,000.00
39	06/30/2006	-	-	-	-	-	6,385,000.00
40	10/01/2006	-	79,812.50	79,812.50	-	-	6,385,000.00
41	04/01/2007	355,000.00	79,812.50	434,812.50	514,625.00	-	6,030,000.00
42	06/30/2007	-	-	-	-	-	6,030,000.00
43	10/01/2007	-	75,375.00	75,375.00	-	-	6,030,000.00
44	04/01/2008	365,000.00	75,375.00	440,375.00	515,750.00	-	5,665,000.00
45	06/30/2008	-	-	-	-	-	5,665,000.00
46	10/01/2008	-	70,812.50	70,812.50	-	-	5,665,000.00
47	04/01/2009	375,000.00	70,812.50	445,812.50	516,625.00	-	5,290,000.00
48	06/30/2009	-	-	-	-	-	5,290,000.00

	B	C	D	E	F	G	H
2							
3							
4	MICHIGAN MUNICIPAL BOND AUTHORITY						
5	<i>FINAL DRINKING WATER PROGRAM SCHEDULE</i>						
6	<i>City of Flint Project# 7019-03</i>						
7	<i>Issue Date: 9/28/01</i>						
8							
9	Loan Summary						
10							
11							
12							
13							
14	Date	Principal	Interest (2.50%)	Debt Service	Annual Debt Service	Disbursements	Outstanding Balance
15							
16							
17	09/28/2001	-	-	-	-	1,250,264.00	1,250,264.00
18	10/01/2001	-	-	-	-	-	1,250,264.00
19	04/01/2002	-	15,888.77	15,888.77	15,888.77	-	1,250,264.00
20	04/22/2002	-	-	-	-	2,733,667.00	3,983,931.00
21	06/30/2002	-	-	-	-	-	3,983,931.00
22	08/26/2002	-	-	-	-	1,844,192.00	5,828,123.00
23	10/01/2002	-	45,812.54	45,812.54	-	-	5,828,123.00
24	04/01/2003	370,000.00	72,851.54	442,851.54	488,664.08	-	5,458,123.00
25	05/12/2003	-	-	-	-	3,146,458.00	8,604,581.00
26	06/30/2003	-	-	-	-	-	8,604,581.00
27	10/01/2003	-	98,598.60	98,598.60	-	-	8,604,581.00
28	04/01/2004	380,000.00	107,557.26	487,557.26	586,155.86	-	8,224,581.00
29	06/30/2004	-	-	-	-	-	8,224,581.00
30	10/01/2004	-	102,807.26	102,807.26	-	-	8,224,581.00
31	04/01/2005	390,000.00	102,807.26	492,807.26	595,614.53	-	7,834,581.00
32	06/30/2005	-	-	-	-	-	7,834,581.00
33	10/01/2005	-	97,932.26	97,932.26	-	-	7,834,581.00
34	04/01/2006	400,000.00	97,932.26	497,932.26	595,864.53	-	7,434,581.00
35	06/30/2006	-	-	-	-	-	7,434,581.00
36	10/01/2006	-	92,932.26	92,932.26	-	-	7,434,581.00
37	04/01/2007	410,000.00	92,932.26	502,932.26	595,864.53	-	7,024,581.00
38	06/30/2007	-	-	-	-	-	7,024,581.00
39	10/01/2007	-	87,807.26	87,807.26	-	-	7,024,581.00
40	04/01/2008	420,000.00	87,807.26	507,807.26	595,614.53	-	6,604,581.00
41	06/30/2008	-	-	-	-	-	6,604,581.00
42	10/01/2008	-	82,557.26	82,557.26	-	-	6,604,581.00
43	09/04/2008	-	-	-	-	336,827.00	6,941,408.00
44	04/01/2009	420,000.00	87,399.15	507,399.15	589,956.41	-	6,521,408.00
45	06/30/2009	-	-	-	-	-	6,521,408.00
46	10/01/2009	-	81,517.60	81,517.60	-	-	6,521,408.00
47	04/01/2010	430,000.00	81,517.60	511,517.60	593,035.20	-	6,091,408.00
48	06/30/2010	-	-	-	-	-	6,091,408.00

	B	C	D	E	F	G	H
2							
3							
4	MICHIGAN MUNICIPAL BOND AUTHORITY						
5	<i>FINAL DRINKING WATER PROGRAM SCHEDULE</i>						
6	<i>City of Flint Project# 7019-04</i>						
7	<i>Issue Date: 9/25/03</i>						
8							
9	Loan Summary						
10							
11							
12							
13							
14	Date	Principal	Interest (2.50%)	Debt Service	Annual Debt Service	Disbursements	Outstanding Balance
15							
16							
17	11/14/2003	-	-	-	-	1,542,253.00	1,542,253.00
18	04/01/2004	-	14,672.82	14,672.82	-	-	1,542,253.00
19	03/15/2004	-	-	-	-	1,313,413.00	2,855,666.00
20	05/21/2004	-	-	-	-	1,638,109.00	4,493,775.00
21	07/30/2004	-	-	-	-	3,744,362.00	8,238,137.00
22	10/01/2004	-	67,805.18	67,805.18	82,478.00	-	8,238,137.00
23	11/19/2004	-	-	-	-	2,062,727.00	10,300,864.00
24	01/14/2005	-	-	-	-	3,413,813.00	13,714,677.00
25	04/01/2005	-	140,139.46	140,139.46	-	-	13,714,677.00
26	05/20/2005	-	-	-	-	1,720,238.00	15,434,915.00
27	08/26/2005	-	-	-	-	1,664,696.00	17,099,611.00
28	10/01/2005	-	187,082.85	187,082.85	327,222.32	-	17,099,611.00
29	11/23/2005	-	-	-	-	858,861.00	17,958,472.00
30	04/01/2006	750,000.00	221,379.46	971,379.46	-	-	17,208,472.00
31	05/12/2006	-	-	-	-	1,127,385.00	18,335,857.00
32	10/01/2006	-	225,988.30	225,988.30	1,197,367.76	-	18,335,857.00
33	04/01/2007	770,000.00	229,198.21	999,198.21	-	-	17,565,857.00
34	10/01/2007	-	219,573.21	219,573.21	1,218,771.42	-	17,565,857.00
35	04/01/2008	790,000.00	219,573.21	1,009,573.21	-	-	16,775,857.00
36	10/01/2008	-	209,698.21	209,698.21	1,219,271.42	-	16,775,857.00
37	04/01/2009	810,000.00	209,698.21	1,019,698.21	-	-	15,965,857.00
38	10/01/2009	-	199,573.21	199,573.21	1,219,271.42	-	15,965,857.00
39	04/01/2010	830,000.00	199,573.21	1,029,573.21	-	-	15,135,857.00
40	10/01/2010	-	189,198.21	189,198.21	1,218,771.42	-	15,135,857.00
41	04/01/2011	850,000.00	189,198.21	1,039,198.21	-	-	14,285,857.00
42	06/23/2011	-	-	-	-	(100,923.00)	14,184,934.00
43	10/01/2011	840,000.00	177,886.38	1,017,886.38	2,057,084.59	-	13,344,934.00
44	04/01/2012	-	166,811.68	166,811.68	-	-	13,344,934.00
45	10/01/2012	865,000.00	166,811.68	1,031,811.68	1,198,623.36	-	12,479,934.00
46	04/01/2013	-	155,999.18	155,999.18	-	-	12,479,934.00
47	10/01/2013	880,000.00	155,999.18	1,035,999.18	1,191,998.36	-	11,599,934.00
48	04/01/2014	-	144,999.18	144,999.18	-	-	11,599,934.00

From: Shekter Smith, Liane (DEQ)
Sent: Friday, February 27, 2015 2:12 PM
To: Sygo, Jim (DEQ)
Cc: Shaler, Karen (DEQ)
Subject: FW: Updated Flint TTHM Results
Attachments: FLINT TTHM RESULTS.docx

FYI

From: Busch, Stephen (DEQ)
Sent: Friday, February 27, 2015 2:11 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Wurfel, Brad (DEQ)
Cc: Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: Updated Flint TTHM Results

Updated TTHM results from Flint are attached, and are as we expected.

The highest sample individual result from February 2015 was 28.5 ppb, less than half the standard of 80 ppb.

The same two sites still exceed the LRAA MCL standard of 80 ppb due to high results from last summer, but the other 6 comply with the LRAA.

(FYI, if we were still under Stage 1 this wouldn't have ever been a standard violation, the RAA would have calculated out to 78 ppb.)

We are in the process of preparing a violation notice to the City and will have a copy to review and distribute to legislative members and other departments early next week.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

FLINT TTHM RESULTS

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.0162	0.096	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.0245	0.105	0.085
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.0199	0.061	0.047

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, March 04, 2015 4:57 PM
To: Sygo, Jim (DEQ)
Cc: Benzie, Richard (DEQ); Shaler, Karen (DEQ); Devereaux, Tracy Jo (DEQ)
Subject: FW: Draft Flint TTHM Violation Notice for comment
Attachments: Flint DBP MCL 1Q15.doc

Importance: High

FYI

From: Busch, Stephen (DEQ)
Sent: Monday, March 02, 2015 3:19 PM
To: Wurfel, Brad (DEQ); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ)
Cc: Datema, Maggie (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: Draft Flint TTHM Violation Notice for comment
Importance: High

Attached is a draft violation notice to the City of Flint regarding the exceedance of the drinking water standard for total trihalomethanes (TTHM) based on the latest round of samples collected in February 2015.

As predicted, the levels from the latest round are all very low, but the annual average calculation for 2 sites remains above the maximum contaminant level standard.

We plan to get the letter out on Thursday so please provide any comments/concerns/questions by Wednesday 3/4. An electronic copy of the signed letter will be provided to Maggie/Sarah for forwarding to legislative members in the Flint area as was done with the last violation notice from December.

Again, if you have any questions, please contact me directly.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

March 5, 2015 - DRAFT

Mr. Brent Wright, Operation Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice – Maximum Contaminant Level for Total Trihalomethanes
Operational Evaluation – Total Trihalomethanes
1st Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels (MCL) for disinfection byproducts*, of the 1979 Administrative Code.

In accordance with R.325.10610, *MCLs for disinfection byproducts*, of the 1979 Administrative Code, the MCL for disinfection byproduct total trihalomethanes (TTHM) is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City of Flint's highest TTHM locational running annual average (LRAA), based on the last four quarters, ending February 28, 2015, is 0.105 mg/l which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the department not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that TTHM operational evaluation levels for the City of Flint exceed 0.080 mg/L at one of the City's eight sample site locations.

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.0162	0.096	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.0245	0.105	0.085
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.0199	0.061	0.047

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on March 1, 2015, and will continue until TTHM LRAA is below the MCL at all sample sites.

We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system.

Operational Evaluation Reports from December 2014 and February 2015 have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation report dated February 27, 2015, and will provide the City and their consultant comments as needed to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than Friday May 29, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this Violation Notice (VN), please provide them in a written response by March 19, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery **and** by any other means reasonably

calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by April 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2015 Consumer Confidence Report (CCR), due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below.

Sincerely,

Michael F. Prysby, P.E., District Engineer
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-290-8817

Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-284-6644

mfp/ar/jlr
Enclosure

cc: Mr. Jerry Ambrose, Emergency Manager, City of Flint
Mr. Daughtry Johnson, City of Flint
Mr. Howard Croft, City of Flint
Mr. Robert Bincsik, City of Flint
Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Genesee County Health Department
Ms. Liane Shekter Smith, P.E., DEQ
Mr. Richard Benzie, P.E., DEQ
Mr. Stephen Busch, P.E., DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, November 20 of 2014 and February 17, 2015). The average of the results at **ANY** of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 µg/L. The location reporting the highest TTHM level was 105 ug/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than half the 80 µg/L standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent 4 quarters, we are still out of compliance with the MCL at 2 of 8 locations.

For more information, please contact Mr. Brent Wright at 517-787-6537 or the Flint Water Plant at 4500 North Dort Highway, Flint, MI 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

From: Shekter Smith, Liane (DEQ)
Sent: Friday, March 27, 2015 3:52 PM
To: Sygo, Jim (DEQ)
Cc: Devereaux, Tracy Jo (DEQ); Shaler, Karen (DEQ)
Subject: FW: Principal forgiveness

FYI -- keeping you in the loop.

From: Barton, John (Treasury)
Sent: Friday, March 27, 2015 12:46 PM
To: Butler, Sonya (DEQ)
Cc: Shekter Smith, Liane (DEQ)
Subject: RE: Principal forgiveness

It does. Thank you. I did not want to speak for DEQ.

From: Butler, Sonya (DEQ)
Sent: Friday, March 27, 2015 12:45 PM
To: Barton, John (Treasury)
Cc: Shekter Smith, Liane (DEQ)
Subject: Principal forgiveness

John

Here's information that you can share with Amy Hovey, staffer for Congressman Dan Kildee, regarding how Michigan has used principal forgiveness in the Revolving Loan Programs. EPA has talked with Congressman Kildee on this issue at least twice.

Principal forgiveness came around with the American Recovery & Reinvestment Act (ARRA). All of Flint's drinking water loans were prior to ARRA. In May 2009, Flint submitted a project plan that comprised various projects the city wanted to pursue. Flint had 2 projects on the project priority list to receive funding in 2010 thru 2013. Initially the projects did not rank high enough to receive funding. When funding became available for Flint, the city declined to move forward with the projects. Some principal forgiveness was offered as part of the funding.

Annually EPA requires the state to describe how principal forgiveness will be used (Intended Use Plan) and then report at the end of the fiscal year (Annual Report) how the funds were allocated. EPA audits the data during their annual visit. In Michigan, we have used principal forgiveness to assist disadvantaged communities and for projects that are water or energy efficient (i.e. green) consistent with EPA guidance. There is no provision to randomly provide principal forgiveness to a project or use it to refinance a prior loan.

The purpose of the funds are to revolve in perpetuity (as stated in federal statute) so that communities can continue to receive financial assistance. Michigan has never completely forgiven an entire loan as it would greatly reduce the capacity of the fund to offer assistance to future projects.

I hope the above helps. If there are additional questions, please let me know.

Sonya T. Butler, Chief
Revolving Loan Section
Office of Drinking Water & Municipal Assistance
Michigan Department of Environmental Quality
525 W. Allegan | Lansing, MI 48933
☎ 517.284.5401



From: Gill, Celeste (AG)
Sent: Wednesday, April 02, 2014 11:18 AM
To: Shekter Smith, Liane (DEQ)
Cc: Sygo, Jim (DEQ);Synk, Polly (AG);Manning, Peter (AG)

Attorney-Client Privilege

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, April 02, 2014 8:53 AM
To: Gill, Celeste (AG)
Cc: Sygo, Jim (DEQ)

Attorney-Client Privilege

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543

From: Gill, Celeste (AG)
Sent: Tuesday, April 01, 2014 5:09 PM
To: Shekter Smith, Liane (DEQ)

Attorney-Client Privilege

Attorney-Client Privilege

From: Shekter Smith, Liane (DEQ)

Sent: Friday, March 14, 2014 1:03 PM

To: Gill, Celeste (AG)

Cc: Sygo, Jim (DEQ); Busch, Stephen (DEQ); Donaldson, Kristina (DEQ); Shaler, Karen (DEQ); Willard, Veronica (DEQ)

Attorney-Client Privilege

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543

From: Gill, Celeste (AG)
Sent: Thursday, April 03, 2014 3:04 PM
To: Shekter Smith, Liane (DEQ); Donaldson, Kristina (DEQ)
Cc: Benzie, Richard (DEQ); Sygo, Jim (DEQ)

Attorney-Client Privilege

From: Shekter Smith, Liane (DEQ)
Sent: Thursday, April 03, 2014 2:56 PM
To: Donaldson, Kristina (DEQ)
Cc: Gill, Celeste (AG); Benzie, Richard (DEQ); Sygo, Jim (DEQ)

Attorney-Client Privilege

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543

From: Gill, Celeste (AG)
Sent: Wednesday, April 02, 2014 11:18 AM
To: Shekter Smith, Liane (DEQ)
Cc: Sygo, Jim (DEQ); Synk, Polly (AG); Manning, Peter (AG)

Attorney-Client Privilege

Attorney-Client Privilege

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, April 02, 2014 8:53 AM
To: Gill, Celeste (AG)
Cc: Sygo, Jim (DEQ)

Attorney-Client Privilege

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543

From: Gill, Celeste (AG)
Sent: Tuesday, April 01, 2014 5:09 PM
To: Shekter Smith, Liane (DEQ)

Attorney-Client Privilege

From: Shekter Smith, Liane (DEQ)
Sent: Friday, March 14, 2014 1:03 PM

To: Gill, Celeste (AG)

Cc: Sygo, Jim (DEQ); Busch, Stephen (DEQ); Donaldson, Kristina (DEQ); Shaler, Karen (DEQ); Willard, Veronica (DEQ)

Attorney-Client Privilege

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543