

[WORK IN PROGRESS] TIMELINE: FLINT'S WATER CRISIS



[image (mod): LeAnn E.
Crowe via Flickr]

This is a work in progress. Not all dates and events between the end of 2015 and current date have been added as of publication. This timeline will be updated periodically, as events unfold and as key information is revealed about Flint's ongoing water crisis. Some information is incomplete or in need of validation. Links to sources will be added over time. If you have content you believe is relevant and should be added, please share in comments.

1974-2002

XX-DEC-1974 – The federal Safe Drinking Water Act (SDWA) enacted to ensure safe drinking water for the public; the Environmental Protection

Agency (EPA) is responsible for setting safety standards, monitoring, compliance and enforcement of the same under the SDWA.

07-JUN-1991 – EPA issued the Lead and Copper Rule (LCR) limiting the amount of lead and copper in public drinking water, as well limiting the permissible amount of pipe corrosion occurring due to the water itself.

XX-JUL-1998 – The federal Environmental Protection Agency required all large public water systems maintain a program to monitor and control lead in drinking water due to piping corrosion under the Lead and Copper Rule (LCR). Cities like Flint must have a state-approved plan to maintain water to regulatory limits for pH, alkalinity, corrosion inhibitor chemicals.

XX-XXX-2002 – [DATE TBD] Genesee County purchased 326 acres of property with 300 feet of Lake Huron waterfront via auction from Detroit Edison, for \$2.7 million ***How did this purchase affect the city of Flint's 2002-2004 financial crisis?*

2009

28-AUG-2009 – Michigan Department of Environmental Quality (MDEQ) issued a permit to Genesee County Drain Commission for water withdrawal from Lake Huron (Permit 2009-001), up to 85 million gallons per day. MDEQ director at the time is Steven Chester.

2011

10-MAY-2011 – DTE Energy expressed interest in acquiring 3 million gallons of water from Lake Huron intake for use at the Greenwood electricity generation plant.

07-SEP-2011 – Report to Flint City Council by Rowe Professional Services determined buying water from Karegnondi Water Authority (KWA) cheaper than continuing to purchase from Detroit Water and Sewerage Department (DWSD), or using

Flint River water as upgrades to Flint treatment equipment required would cost \$50 million.

XX-SEP-2011 – (confirm date) City of Flint increase water and sewer rates 35%. Higher water costs due in part to higher-than-expected unmetered water losses. This is the second double-digit rate hike in 2011. The city's water system once served ~200K residents, now serves half that number and a much smaller manufacturing base.

29-NOV-2011 – Emergency Manager Michael Brown appointed by Gov. Rick Snyder to take over management of the city of Flint effective 01-DEC-2011. Democratically elected offices are now subordinate to the EM.

XX-DEC-2011 – (confirm date) Report showed the City of Flint leaking 30 to 40% of its water, well above more typical 15-20 percent loss of unmetered water.

14-DEC-2011 – EM Michael Brown appointed Howard Croft as Director of Infrastructure and Development. Croft's role has oversight of Parks and Recreation department, Street Maintenance, Water and Sewer, Sanitation, Planning, Fleet and Community and Economic Development. Jerry Ambrose named financial advisor, with oversight of finance, budget and treasury departments; Gary Bates named director of human resources and labor relations. Bates's role was temporary, lasting 90 days, at time of appointment.

20-DEC-2011 – The City of Detroit sells \$500,675,000 in bonds for Water Supply System Revenue funding (pdf). The offering prospectus notes Flint's desire to migrate to the KWA, but that it might be seven years out before the move. 6% of DWSD water is supplied to Flint.

2012

XX-FEB-2012 – (confirm date) Emergency Manager's team audited Flint's water system to identify current rate of unmetered water loss.

23-APR-2012 – EM Michael Brown proposed budget plan includes a 25% average increase in water and sewer rates, with water rates projected to increase 12.5% and sewer 45%. City personnel cuts were also proposed. Water and sewer are the single largest expenditure in the budget. (Proposed budget, PDF) ***Did any of the personnel cuts made affect staffing of water and sewer maintenance?*

XX-AUG-2012 – [DATE TBD] Emergency Manager Ed Kurtz appointed by Gov. Rick Snyder after Brown steps down. Kurtz has previous experience working in Flint during the 2002-2004 financial emergency.

XX-DEC-2012 – [DATE TBD] Michigan Treasury officials met with Flint city officials to discuss drinking water alternatives, including Flint River. Only two options – remaining on DWSD, or development/switch to new KWA – would be studied.

2013

25-MAR-2013 – Flint City Council voted to join KWA. This vote is non-binding since EM holds all power to authorize/contract.

26-MAR-2013 – [EMAIL] MDEQ Office of Drinking Water and Management Assistance district director Stephen Busch emailed a draft assessment to Dan Wyant concerning Flint's water system and alternative sources. The draft outlined concerns about the health risks and increased expenses expected with a switch to Flint River water. (A copy of the mail was not public until released by Gov. Snyder's office on 12-FEB-2016.) ***Note remarks in email regarding economic development—were these obscured as part of decision-making, elevated above public health concerns?*

29-MAR-2013 – EM Ed Kurtz signs resolution authorizing Flint to enter into a contract with KWA to purchase water.

11-APR-2013 – Andy Dillon, MI-Treasurer, told EM

Ed Kurtz state approved city of Flint's entry into agreement with KWA effective 16-APR-2016 pending review of DWSD offer expected on 15-APR-2013

15-APR-2013 – [EMAIL] DWSD offered rate 48% lower than the current rate, saving 20% over 30 years compared to KWA. ***Where is documentation of this offer to Flint EM and/or state??*

16-APR-2013 – Genesee County Drain Commissioner's Office issued a Joint Statement from commissioner Jeff Wright and Flint EM Ed Kurtz regarding Detroit's Final Offer on Water Service. Excerpt:

After reviewing the proposal, both Ed Kurtz and Jeff Wright were in agreement, the Karegnondi Pipeline is still the best option for our residents, saving them the most money both in the short and long term. The offer from Detroit, even on its surface, will cost residents more money than KWA.

Wright is also the CEO of KWA. ***Is Wright's role as both Drain Commissioner and KWA's CEO a conflict of interest?*

16-APR-2013 – EM Ed Kurtz signed an agreement with KWA though KWA cannot supply water for another 2.5 years.

17-APR-2013 – Certified letter received by Flint City Clerk from DWSD, notifying termination of water contract in one year. Flint EMs and MI state officials treat this notice as "cut off."

01-MAY-2013 – Genesee County Drain Commissioner's Office Communications Director Kevin Sylvester published a letter to All Interested Parties, including attachments supporting the decision to purchase Flint's drinking water from KWA. The letter indicates the decision has been vetted by MDEQ, MI-Treasury, MI-Agriculture.

29-MAY-2013 – EM Ed Kurtz tendered notice of resignation. He will work through the first week

of July.

21-JUN-2013 – EM Ed Kurtz presented a resolution to enter into a professional engineering services contract for implementation of placing the Flint Water Plant into Operation. The contract is sole source with Lockwood, Andrews & Newman, Inc. engineers.

26-JUN-2013 – With the approval of Flint's CLO Bade and Finance Director Ambrose, EM Ed Kurtz hired Lockwood, Andrews & Newnam, Inc. engineers (LAN) on a sole-source contract to plan switch-over to Flint River through Flint Water Plant. Fee: \$171,000. LAN is a subsidiary of national consulting firm Leo A. Daly, based in Texas. ***Why was LAN hired versus any other in-state engineering firm?*

28-JUN-2013 – KWA broke ground on the pipeline project near Lake Huron.

30-JUN-2013 – EM Ed Kurtz left his role as of the end of fiscal year.

18-JUL-2013 – The City of Detroit declared bankruptcy. KWA bond financing put on hold.

08-JUL-2013 – Michael Brown appointed Flint's EM a second time.

XX-SEP-2013 – [DATE TBD] Genesee County sold \$35 million in bonds based on a 5.04% interest rate to finance the launch of KWA construction.

11-SEP-2013 – Michael Brown resigned as EM.

01-OCT-2013 – Darnell Earley appointed EM. He served Flint previously in 2002 as mayor.

2014

07-MAR-2014 – EM Darnell Earley rejected an offer to continue purchasing water from DWSD. Earley discloses in a letter that Flint will take water from Flint River.

26-MAR-2014 – Credit rating agencies Moody's and Standard & Poors offered A2 (upper-middle-grade) and A-plus (with stable outlook) credit ratings

respectively on \$220 million bonds to be sold by KWA. Loan rate based on these ratings was expected to be at or below 5%.

09-APR-2014 – MDEQ approved permits allowing Flint to switch to Flint River

14-APR-2014 – [EMAIL] City of Flint's Laboratory & Water Quality Supervisor Mike Glasgow emailed MDEQ (name/contact TBD):

"I have people above me making plans to distribute water ASAP [...] I was reluctant before, but after looking at the monitoring schedule and our current staffing, I do not anticipate giving the OK to begin sending water out anytime soon [...] If water is distributed from this plant in the next couple weeks, it will be against my direction. [...] I need time to adequately train additional staff and to update our monitoring plans before I will feel we are ready. I will reiterate this to management above me, but they seem to have their own agenda."

This email was not public until released by Gov. Snyder's office 12-FEB-2015.

25-APR-2014 – Flint's water system was switched over to Flint River ***Were there ever any tests prior to this date during which river water entered water system?*

01-JUN-2014 – Complaints swelled from residents about the smell/taste/color of water; some residents claim it has made them ill.

14-AUG-2014 – Flint water tested positive for *E. coli* bacteria. Boil Water advisories were issued 2 days later.

05-SEP-2014 – A second Boil Water advisory issued, including a new portion of the city.

09-SEP-2014 – Boil Water advisories ended.

XX-SEP-2014 – [DATE TBD] Children's blood lead levels test unusually high for period July-

August-September. The data appears in Michigan Department of Human Health Services' records.

13-OCT-2014 – General Motors said it will buy water from Flint Township as chlorine added to Flint City water can cause corrosion in its engines.

17-OCT-2014 – Government official(s) or employees aware of possible link between Legionnaires Disease cases and the city's switch to Flint River as water source. Data will show Genesee county experienced a tapering of a first outbreak at this point. (Government's awareness not made public until January 2016; report by The Flint Journal does not specify who exactly from GCHD and Flint water system were first aware.)

XX-OCT-2014 – [DATE TBD] Gov. Snyder requests a briefing on Flint water situation from MDEQ. Aging pipes prone to corrosion are blamed for E. coli bacteria and subsequent Boil Water advisories. Lead levels are not mentioned.

XX-NOV-2014 – (confirm date) [EMAIL] Dick Posthumus, senior advisor to the governor, asks Snyder if he will support a bill to allow Flint to boost its income tax from 1 percent to 1.5 percent (a rate some other cities have). No definitive response received.

XX-DEC-2014 – (confirm date) [EMAIL] Snyder's Deputy Director of Legislative Affairs Sally Durfee wrote to Executive Director to the Governor Allison Scott and Posthumus that [*an income tax rate increase – confirm*] would raise \$6.5 million per year, has the support of the Flint emergency manager and the state Treasury Department. But State Rep. Jeff Farrington (R-Utica) said, "he would take up this bill over his dead body."

2015

01-JAN-2015 – MDEQ began a second six-month Flint monitoring period under Lead and Copper Rule. First testing period showed a 90th

percentile reading of six parts per billion of lead in Flint tap water.

02-JAN-2015 – MDEQ reports levels of total trihalomethanes (TTHM) are unacceptable. TTHM in water resulted from chlorination to treat for *E. coli*. Water is in violation of federal Safe Drinking Water Act; the city mailed a notice to its customers saying it is in violation due to the TTHM.

06-JAN-2015 – Flint mayor Dayne Walling said water is safe, he and his family use it.

09-JAN-2015 – University of Michigan-Flint water tests revealed high lead levels in two locations on campus. Some water fountains are turned off.

11-JAN-2015 – EM Darnell Earley rejected city council members plea to stop using Flint River water. Water treatment consultants will be hired instead as the cost of switching back to DWSO could cost \$12 million-plus.

12-JAN-2015 – (confirm date) DWSO offered EM Earley a waiver of a \$4 million reconnection fee to switch back to Detroit Water.

13-JAN-2015 – Flint's Department of Public Works published a letter including questions from the public about Flint's water system and the city's response. The letter is signed by Howard Croft, Dayne Walling, and Jerry Ambrose. The letter does not include any questions or answers about lead levels or *Legionella* contamination.

13-JAN-2015 – EM Darnell Earley left to become EM of Detroit Public Schools. Gov. Snyder appoints Jerry Ambrose as new EM for Flint.

22-JAN-2015 – (confirm source) Snyder Admin's Dick Posthumus wrote, "[W]e have two meetings coming up on this next week" including Snyder Director of Strategy John Walsh, top urban affairs aide Harvey Hollins, and numerous others in the administration. "Later that day we are meeting with several people from Flint, including the EM, Mayor, and Senator Ananich."

27-JAN-2015 – "An internal email from a Health

Department supervisor on Jan. 27, 2015, says employees at Flint's water treatment plant had not responded in months to 'multiple written and verbal requests' for information, slowing progress on the probe. In the same month that the email was written, two new cases of Legionnaires' were reported in the county." – Excerpt, 16-JAN-2016 article by The Flint Journal. GCHD supervisor not named, nor is a copy of the email published.

04-FEB-2015 – EM Jerry Ambrose signed a resolution authorizing Flint to contract Veolia Water as water quality consultant to review and evaluate the water treatment process and distribution system. The water plant consultant was to provide recommendations to remain compliant with State and Federal agencies. The resolution indicates Veolia was the sole bidder; the resolution does not mention specific water problems to date like lead, TTHM, or biological agent contamination. ***Why Veolia was the sole bidder?*

25-FEB-2015 – Mike Glasgow with the City of Flint discovered high lead in water samples from Flint resident Lee Anne Walters' home – 104 parts per billion.

XX-FEB-2015 – (Confirm date) Lee Anne Walters forwarded results of lead tests to EPA-Region 5 office.

XX-FEB-2015 – (Confirm date) [EMAIL] EPA-Region 5 office forward Walters' test results to MDEQ's Stephen Busch and Mike Prysby. Subject: "HIGH LEAD: FLINT Water testing Results."

XX-FEB-2015 – (Confirm date) [EMAIL] EPA-Region 5 Lead-in-Water expert Miguel Del Toral asked MDEQ via EPA employee Oconfirm identity): "Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment-is it Phosphates?"

27-FEB-2015 – [EMAIL] MDEQ's Stephen Busch replied to EPA in bulleted points: "The City of Flint...Has an Optimized Corrosion Control Program"; "Conducts quarterly Water Quality

Parameter monitoring at 25 sites and has not had any unusual results”; “has never had a 90th percentile lead AL exceedance.” However, Flint was not adding phosphates or other anti-corrosion chemicals.

XX-FEB-2015 – (Confirm date) [EMAIL] EPA’S Del Toral responds to MDEQ, ““If I remember correctly, Detroit is feeding P04 for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their was. They are required to have in place which is why I was asking what they were using.”

10-MAR-2015 – [EMAIL] James Henry, Genesee County Environmental Healty supervisor wrote to Flint and MDEQ officials in regard to an uptick in Legionnaires Disease, “The increase of the illnesses closely corresponds with the timeframe of the switch to the Flint River Water. The majority of the cases reside or have an association with the city...This situation has been explicitly explained to the MDEQ and many of the city’s officials. I want to make sure in writing that there are no misunderstandings regarding this significant and urgent public health issue.”

12-MAR-2015 – Veolia Water submits their report. Excerpt (emphasis added):

“Although a review of water quality records for the time period under our study **indicates compliance with State and Federal water quality regulations**, Veolia, as an operator and manager of comparable utilities, recommends a variety of actions to address improvements in water quality and related aesthetics including: operational changes and improvements; changes in water treatment processes, procedures and chemical dosing; adjustments in how current technologies are being used; increased maintenance and capital program activities; increased training; and, an enhanced customer communications program.”

18-MAR-2015 – Lee Anne Walters’ home retested after plumbing flushed thoroughly. Results are worse – 397 ppb. The test results do not make sense as Walters’ plumbing had been replaced by plastic, lead-free plumbing as all copper plumbing had been stripped from the home prior to its purchase.

XX-MAR-2015 – (confirm date) EPA-Region 5 forwarded Walters’ test results to MDEQ, asking, “Any thoughts on how to respond to her? I’m running out of ideas.”

19-MAR-2015 – [VOICEMAIL] MDEQ responds to EPA’s Del Toral, saying that “MDEQ had investigated and found Ms. Walters’ high lead was due to lead sources in her plumbing.”

23-MAR-2015 – Flint’s city council votes 7-1 to reconnect with DWSD. The vote is non-binding as the city remains under the control of an emergency manager.

27-MAR-2015 – Lee Anne Walters’ son tested for blood lead level. Results were high, above the Center for Disease Control’s 5 ug/dL ‘threshold of concern.’

XX-XXX-2015 – [DATE TBD – may be duplicate] Lee Anne Walters’ child diagnosed with lead poisoning, the source of which is Walters’ household connection to Flint water system. Walters’ water service has been disconnected and reconnected to a neighbor’s water by a garden hose.

XX-MAR-2015 – [DATE TBD] Lee Anne Walters called the City of Flint to confirm the existence of an “Optimized Corrosion Control Program.” City officials advised her there was no such program.

XX-MAR-2015 – [DATE TBD] Walters contacted EPA’s Del Toral, advising the lack of corrosion control program.

13-APR-2015 – City Administrator Natasha Henderson and Department of Public Works Director Howard Croft told Flint City Council that a new carbon filtration system to remove

TTHM wouldn't be needed after the city switches to KWA. The filter was scheduled for implementation in July 2015.

23-APR-2015 – [EMAIL] EPA's Del Toral emails MDEQ, asking what corrosion control program was used in Flint.

XX-APR-2015 – [DATE TBD] MDEQ'S (confirm identity) replies to EPA's Del Toral, acknowledging Flint had no corrosion control program.

27-APR-2015 – [EMAIL] EPA's Del Toral emails EPA-Region 5: "Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City."

27-APR-2015 – EPA's Del Toral stops at Lee Anne Walters' house, inspects household plumbing, finds it is plastic and lead-free. Del Toral also leaves sample bottles and leaves contact information for VA-Tech's Marc Edwards if she wants an analysis.

28-APR-2015 – VA-Tech's Marc Edwards spoke with Lee Anne Walters and explained how to collect a 30-bottle sample.

29-APR-2015 – EM Jerry Ambrose leaves office as the city's financial emergency is declared over. Oversight of the city council and mayor's office are now under "Receivership Transition Advisory Board."

XX-MAY-2015 – Data will later reveal a second months' long outbreak of Legionnaires Disease begins in Genesee County during this month.

XX-MAY-2015 – [DATE TBD] Lee Anne Walters' samples were sent to VA-Tech for analysis. The average lead level was "2,429 ppb lead, the high was 13,200 ppb, and even after 25 minutes flushing the water never dropped below 200 ppb."

XX-MAY-2015 – [DATE TBD] Walters tells EPA's Del Toral about the high lead results.

XX-MAY-2015 – [DATE TBD] EPA's Del Toral arrives

at Walters' home in Flint, arrives in time to find City of Flint replacing the service line to Walters' home. The pipe, which Del Toral sampled, was pure lead.

01-JUN-2015 – Flint's water tested lower in May for TTHM, below federal guidelines, but the average of tests over the last year meant Flint's water was still in violation of the Safe Drinking Water Act.

05-JUN-2015 – The Coalition for Clean Water, whose members include Flint Concerned Pastors for Social Action, the Democracy Defense League, and Flint City Councilman Eric Mays, filed suit against the city of Flint to force the water system to be reconnected to DWS.

16-JUN-2015 – The City of Flint filed to move CCW's lawsuit to federal court.

23-JUN-2015 – U.S. District Judge Stephen Murphy denied the Coalition for Clean Water's motion for an injunction against the City of Flint. Murphy decision said he was "unable to determine the coalition's legal theory, or even whether the court has the power to grant the requested relief."

24-JUN-2015 – A memo written by Miguel Del Toral of EPA was leaked. The memo addresses Lee Anne Walters' household water tests reporting high lead levels.

24-JUN-2015 – [May be a duplicate of above entry] EPA's Del Toral sent a follow-up memo to both Lee Anne Walters and VA-Tech's Marc Edwards, outlining concerns about Flint's lead corrosion problem. Del Toral included a "included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control."

XX-XXX-2015 – [DATE TBD] Lee-Anne Walters made two phonecalls to a state lead poisoning nurse "Karen" in Lansing. "Karen" was dismissive about Walters' concerns, saying "He is barely lead poisoned. If CDC had not changed their lead

poisoning standard from 10 down to 5, we would not be having this conversation.” On protest from Walters, “Karen” said, “I am working with kids in their 40’s and 50’s. It is just a few IQ points...it is not the end of the world.”

10-JUL-2015 – MDEQ’s Brad Wurfel said, “anyone who is concerned about lead in the drinking water in Flint can relax. It does not look like there is any broad problem with the water supply freeing up lead as it goes to homes,” in an interview with Michigan Public Radio.

23-JUL-2015 – [EMAIL] Linda Dykema, Michigan Department of Community Health, sent an email with subject: “R.E.Director’s Office Assignment-Flint- need update ASAP”

27-JUL-2015 – [EMAIL] Email from [XXXX – confirm identity] asked, “[C]an you quickly run any tests to see if the difference in the first graph is statistically significant”

28-JUL-2015 – [EMAIL] Email summary includes, “This doesn’t say anything about causality, but it does warrant further investigation.”

10-AUG-2015 – [EMAIL] EPA Region 5 Chief, Ground and Drinking Water Branch Thomas Poy asked MDEQ’s Liane Shekter Smith, Richard Benzie, and Stephen Busch:

Liane: Any news on flint since our call a couple of weeks ago? Has the letter been sent to inform them that they are not optimized for lead based on their monitoring, Have they been approached about starting corrosion control sooner rather than later?”

(Date of the referenced call not yet available as of this timeline update 15-FEB-2016, to be confirmed)

20-AUG-2015 – A Michigan Public Radio report demonstrates how MDEQ manipulated the report on Flint’s water samples to meet federal guidelines for lead levels. Two dropped samples, one of which was from Lee Anne Walters’ house, lowered

the city below the federal action level.

24-AUG-2015 – A simple study by VA-Tech team demonstrates Flint's water's higher degree of corrosivity versus DWS water. Flint River water has about 8 times more chloride in it than Detroit water; the increased corrosion may have resulted in numerous water main breaks.

02-SEP-2015 – [EMAIL] VA-Tech's Marc Edwards made data request to Robert Scott, MI-DCH, identical to data request in November 2006 for blood lead study in Lansing, MI. No response received. Email subject: "Repeat of 2006 study request, but for Flint and Genesee County and Detroit zip codes, from January 1 2011 to present."

06-SEP-2015 – MDEQ's Brad Wurfel refutes findings to date by Virginia Tech University's Marc Edwards. "The samples don't match the testing that we've been doing in the same kind of neighborhoods all over the city for the past year," saying MDEQ conducted two rounds of testing in the past year, and that MI-DCH also tests blood lead levels in Flint. "With these kind of numbers we would have expected to be seeing a spike somewhere else in the other lead monitoring that goes on in the community."

07-SEP-2015 – [EMAIL] VA-Tech's Marc Edwards sent reminder to Robert Scott, MI-DCH.

08-SEP-2015 – [EMAIL] 7:55 a.m. MI-DCH Robert Scott replied, "Yes, sorry for the delay; I'll get you a more complete answer later today."

08-SEP-2015 – [EMAIL] 4:19 p.m. MI-DCH Robert Scott follow-up: "...There has been some concern about the water source change in Flint, and in fact we had a call about it today." A new data sharing agreement was requested; Scott indicated he would run it past "Legal."

10-SEP-2015 – [EMAIL] 7:57 p.m. VA-Tech's Marc Edwards asks MI-DCH's Robert Scott, "Do you need anything else from me?"

11-SEP-2015 – [EMAIL] 12:58 p.m. MI-DCH's Scott

replies, "Maybe. My contact at Legal let me know the other day that he's unusually busy with other matters right now, so his review of DUAs might be delayed unless there was a specific reason for quicker action on his part. If you are in need of a reasonably quick turnaround—i.e., a week rather than a month or so—then please send me a paragraph explaining why. I'll pass that along with your DUA. If you're not in a hurry, then I'm all set for now—I'll submit your DUA as is."

11-SEP-2015 – [EMAIL] 1:03 p.m. VA-Tech's Marc Edwards replies to MI-DCH's Scott: "Yes, I think there is clearly some urgency to the situation. MDEQ has publicly stated that your blood lead records, are showing that there is no public health concern for residents in Flint. The levels of lead in Flint water, that we are finding in our water sampling, are certainly in a range that can cause childhood lead poisoning. Indeed, one child has already, likely been lead poisoned from exposure to high lead in water. I think the fact that you already have other teams working on these records, indicates a high level of interest, and urgency. Congressional interest in the safety of the water is also very high, and this will be an important issue in deciding options for treating the water, in the weeks and months ahead."

11-SEP-2015 – [EMAIL] 1:09 p.m. MI-DCH'S Robert Scott wrote to colleagues Nancy Peeler, Karen Lishinski, Wesley Priem, "The attached was submitted to me along with a request for de-identified data, which should be no problem. When you have a few minutes you might want to take a look at it. Sounds like there might be more to this than what we learned previously. Yikes!."

16-SEP-2015 – Virginia Tech University's Marc Edwards and research team, in conjunction with ACLU of Michigan and Flint residents, wrap up water sample tests taken from approximately 300 homes around Flint. Lee Anne Walters' sample is the highest, with a number of other samples

approaching a level considered "hazardous waste."

24-SEP-2015 – 2:09 p.m. Dr. Mona Hanna-Attisha, a pediatrician at Hurley Medical Center, releases research results on blood samples drawn from Flint children. The study, which compared blood samples gathered January-September 2013, to levels in samples collected from January-September 2015, showed blood lead levels elevated after the city switched to Flint River water.

24-SEP-2015 – 6:51 p.m. MI-HHSD spokesperson Angela Minicuci responded to the Hurley study results, indicating blood lead levels in Flint have remained fairly steady for children under 16 years old since the city switched from Lake Huron water to the river. "We are reviewing the results...Our data is not in line" with Dr. Hanna-Attisha's report. (source: The Flint Journal-MLive)

30-SEP-2015 – Gov. Snyder said, "Things were not fully understood," about the switch to Flint River water from DWS, admitting mistakes were made.

XX-OCT-2015 – Data will show the second outbreak of Legionnaires Disease in Genesee County ends this month.

01-OCT-2015 – A Public Health Emergency is declared by Genesee County Health Department (GCHD) in response to the city's water lead level advisory. The city launches an effort to distribute water filters to residents.

02-OCT-2015 – MDEQ director Dan Wyant said Flint water system used corrosion controls. MDEQ spokesman Brad Wurfel said Flint used lime to correct water hardness and corrosion. Neither were accurate statements.

06-OCT-2015 – The State of Michigan distributes 20,000 water filters. GCHD and nonprofit United Way distribute another 4,000.

08-OCT-2015 – (Confirm time of day) MDEQ

director Dan Wyant announced during a press conference that Flint's Eisenhower and Freeman elementary schools, and Brownell/Holmes STEM academies tested above federal limit for lead in drinking water. One of the schools tested at more than six times the federal limit.

08-OCT-2015 – (Confirm time of day and location) Gov. Snyder announces Flint's water system will switch back to DWS. The \$12 million cost will be paid by Mott Foundation (\$10 million) and Flint (\$2 million).

16-OCT-2015 – Flint's water system switches back to DWS. A full flush of the water system was expected to take three weeks.

19-OCT-2015 – MDEQ director Dan Wyant said department used the wrong federal standards for corrosion treatments over previous 17 months.

21-OCT-2015 – Gov. Snyder announces a Flint Water Task Force to review state, federal and municipal actions, offer recommendations

03-NOV-2015 – Karen Weaver elected as mayor of Flint, unseating incumbent Dayne Walling.

04-NOV-2015 – [EMAIL] MDEQ Michael Prysby, District Engineer, MI-ODWMA, emailed Brent Wright and Michael Glasgow with City of Flint, subject: "P04 Permit Oct28th.pdf":

Attached is the Act 299 permit authorizing installation of the corrosion control treatment system at the water treatment plant."

09-NOV-2015 – MDEQ released water testing data from ~400 homes and businesses, including Freeman Elementary School. MDEQ said the tests showed the lead problems are specific to buildings or faucets and not the entire Flint water system.

10-NOV-2015 – EPA regional administrator Susan Hedman announces an audit of MDEQ's drinking water program to determine if SDWA requirements are met.

12-NOV-2015 – Documents FOIA'd by The Flint Journal show that water samples results from water samples taken from city residences were not drawn from those with highest risk of lead contamination, though certified documents filed with state regulators indicated otherwise. The samples' results may have delayed response to the city's public health emergency.

13-NOV-2015 – Flint residents filed a federal class action lawsuit against the state and city government employees, naming Gov. Rick Snyder, Daniel Wyant, Liane Shekter Smith, Adam Rosenthal, Stephen Busch, Patrick Cook, Michael Prysby, Bradley Wurfel, Darnell Earley, Gerald Ambrose, Dayne Walling, Howard Croft, Michael Glasgow and Daugherty Johnson, and the City of Flint.

16-NOV-2015 – Flint Director of Infrastructure and Development Howard Croft resigned. Croft had been in charge of Flint water system operations.

05-DEC-2015 – Mayor Karen Weaver declared a state of emergency in Flint due to the damaged water system.

28-DEC-2015 – A break-in at Flint's City Hall was discovered by a city employee. An office containing water files in the mayor's suite had been entered and a TV taken. It was not clear at the time the story was reported by The Flint Journal whether any documents were missing.

29-DEC-2015 – MDEQ director Dan Wyant and MDEQ spokesman Brad Wurfel resigned after Flint Water Advisory Task Force attributed Flint water crisis to MDEQ's handling in a letter to Gov. Snyder. ***Is the task force's letter available to public?*

30-DEC-2015 – Gov. Snyder appoints Keith Creagh, director of Michigan Department of Natural Resources, as interim head of MDEQ.

2016

05-JAN-2016 – Gov. Snyder declared a state of

emergency for the City of Flint due to the lead levels in Flint's drinking water.

05-JAN-2016 – U.S. Attorney's Office confirmed they are working with the EPA to investigate the city's water contamination.

13-JAN-2016 – Gov. Snyder, MI-HHSD Director Nick Lyon, and MI-HHSD Chief Medical Executive Eden Wells announced a spike in cases of *Legionella* bacteria were found in Genesee County. There were a total of 87 identified cases between June 2014 and November 2015, of which ten* were fatal. Wells said, "87 cases is a lot. That tells us that there is a source there that needs to be investigated." [*-Numbers in reports vary, some show 10 fatalities, others show nine. Subject to validation./Rayne]

16-JAN-2016 – FOIA's documents obtained by The Flint Journal-MLive revealed city, county and state public health officials identified Flint River water as a possible origin for *Legionella* bacteria – the cause of □Legionnaires' disease – as far back as 17-OCT-2014. The documents also showed city officials did not cooperate with county health personnel looking into contamination of Flint's water system. [NOTE; FOIA'd documents not available for public review as of 11-FEB-2016/Rayne]

22-JAN-2016 – MDEQ's Stephen Busch and Liane Shekter-Smith were suspended without pay, according to an announcement from Gov. Snyder's office.

03-FEB-2016 – MDEQ's Creagh, EPA Deputy Assistant Administrator for the Office of Water at the U.S. Environmental Protection Agency Joel Beauvais, VA-Tech's Marc Edwards, Flint resident Lee Anne Walters testified before House Oversight Committee with regard to Flint's water crisis. EM Darnell Earley declined to appear; Rep. Jason Chaffetz promised to "hunt down" Earley to compel testimony at a future date. EPA's Miguel Del Toral also declined to appear; the committee excused him as Del Toral was working on conditions in Flint.

05-FEB-2016 – MDEQ Drinking water and Municipal Assistance unit head Liane Shekter Smith terminated from role after review of Flint water crisis.

10-FEB-2016 – The City of Flint issued a Boil Water Advisory for north side residents (north of Flushing Road). A water main break may have exposed water in the system to biological contaminants. Gov. Snyder tweets the Boil Water Advisory, using a link to ABC12-TV in Flint.

12-FEB-2016 – [EMAIL] Emails released by Gov. Snyder's office reveal warnings by MDEQ's Stephen Busch on 26-MAR-2013 about the health risks and increased expenses expected with a switch to Flint River water. However none of the emails released pre-date January 1, 2014.

MORE TO COME

SPECULATIONS AND QUESTIONS:

– Why was a 60-mile span of pipe with a new Lake Huron intake pursued, instead of 30-40 miles of pipe and connection to the City of Saginaw's water system to the north?

– Did Detroit's Emergency Manager Kevin Orr attempt to raise DWSD rates to Flint in order to force Flint off DWSD in preparation for the sale of DWSD to Oakland and Macomb Counties?

– Was DWSD used as an instrument to foreclose on Detroit/metro properties and transfer ownership (Example: Detroit Medical Society)?

*** See also double-asterisk items marked above.*

Sources:

- The Flint Journal-MLive
- Michigan Radio
- City of Flint
- FlintWaterStudy.org, a website produced by The Virginia Tech Research Team

- Metrotimes.com
- EPA.gov
- MarkMaynard.com
- Bridge Magazine
- Genesee County Drain Commissioner Water & Waste Services
- Michigan.gov, including Gov. Snyder's office
(Link: Emails released 20-JAN-2016 (pdf))
- Eclectablog