From: Prysby, Mike (DEQ)
To: Wurfel, Brad (DEQ); Feuerstein, Heather (DEQ); Shekter Smith, Liane (DEQ); Willard, Veronica (DEQ); Busch, Stephen (DEQ); Benzie, Richard (DEQ)
Subject: City of Flint BWA follow-up - media inquiry
Date: Thursday, September 18, 2014 2:07:40 PM

Mr. Ron Fonger from the Flint Journal called me this morning concerning a follow-up meeting with Flint city council yesterday evening and their summary of the most recent localized BWA (rescinded on 9/9/14). The city agrees that there are underlying problems in the water distribution system; however, the following question was asked……Why weren't these problems being experienced while we were purchasing water from Detroit? Howard Kroft (City Administrator) responded that the difference in the source water (higher temperature in the Flint River) creates a treated water that is not fully stabilized and reduce chlorine residuals in the distribution system. This problem was exasperated further in the distribution system due to several transmission main valves being closed causing stagnation and ineffective disinfection. Ron asked if I agreed with Mr. Kroft's discussion and if there may be a link between the Flint River source water and the problems recently experienced in the distribution system.

I agreed, in part, that low chlorine residuals (< 0.1 to trace free) and stagnation is ineffective in maintaining adequate disinfection especially in old tuberculated cast-iron piping that is susceptible to bacteriological growth under low chlorine conditions. Stagnation due to closed valves can worsen these conditions; thus, the city needs to optimize system operation to minimize stagnation. Efforts could include; improve turn-over of water within their existing water storage reservoirs on the west side of town, operate their pumping stations in segregated pressure districts instead of re-circulating water. Also, the water storage reservoirs should be inspected and cleaned (removal of any excessive sediment) as needed.

I also agreed with Mr. Kroft's statement that the Flint River is more difficult source to treat than Lake Huron water. Although higher raw water temperature can accelerate the loss of free chlorine in the distribution system, I also added that treated water from the Flint River water likely has an increased chlorine demand due to higher organic content (typically associated

with surface water – river sources). Although an adequate free chlorine residual is being distributed from the WTP, the higher chlorine demand will reduce the free residual over time out in the distribution system – which makes it important to optimize distribution system operation.

I also informed Ron that that there has be no further BWAs since last Tuesday nor evidence of contamination in the Flint distribution system. Also, free chlorine residuals have increased in the BWA area based on our most recent discussion with Flint water utility operators.

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