July 29, 2022

Submitted via email

Liesl Clark, Director
Michigan Department of Environment, Great Lakes, and Energy

Elizabeth Hertel,
Director Michigan Department of Health And Human Services

Re: Clarifications on the June 3 Benton Harbor presentation and June Public Notices

Dear Director Clark and Director Hertel,

Thank you for your continued willingness to engage with advocates regarding your respective efforts to ensure Benton Harbor residents have safe drinking water, including the informative presentation on June 3, 2022 about compliance at the Benton Harbor water treatment plant. I have been reviewing the presentations and Monthly Operating Report (MOR) data posted on the EGLE Benton Harbor website, focusing on current compliance with the treatment requirements of the Surface Water Treatment Rules (SWTRs). While I do have several clarifying questions about the data you've shared, I do not see any evidence in the February data EGLE presented that Benton Harbor was not meeting the C*T and filtration requirements at the water treatment plant.

We know that residents are currently drinking water from the tap in Benton Harbor, and residents are receiving incomplete information about using certified lead reducing water filters. While there may still be a potential risk from microbes, there is a well-documented known risk of drinking water lead exposure in Benton Harbor even when lead service lines are removed. Given the plausible evidence that Benton Harbor may be in compliance with the C*T and filtration requirements at the treatment plant, it is important to ensure that every Benton Harbor resident has a properly installed water filter and accurate information on the importance of using a filter during the months following lead service line replacement. A request for this intervention in Benton Harbor is detailed in a separate letter from Nick Leonard.

In addition to treatment plant compliance and filter installation and education, it is important to note that Benton Harbor residents still have not received adequate public notice explaining the extent of violations at the water treatment plant over the past 5 plus years. Clear, transparent, and accurate communication to the community should provide critical context for residents trying to understand their risk from lead and what it means to transition to filter use in their homes. Clearly identified public notices that explain these violations have not been provided. The public notices delivered to residents were hidden in the annual water

quality report and are not identified on the Benton Harbor website. Further, the content of the public notices does not meet requirements. Mandatory language is not included, irrelevant and distracting information is provided that nullifies the purpose of the notice, and readers are told to look elsewhere for current recommendations for obtaining safe drinking water.

An attachment is provided to this letter with a marked-up copy of the 2021 Benton Harbor Water Quality Report detailing our concerns with the public notices. There are extensive opportunities to improve the mandatory public notices and we look forward to seeing these revised and redistributed.

Next, I am submitting clarifying questions on the June 3 presentation for further discussion, document sharing and information exchange.

Water treatment plant data should be consistent and logical as water moves through the water treatment train and data are reported across different dosing and monitoring locations. Consistent, plausible data will help build confidence in the C*T calculations EGLE presented on June 3. I examined the February data included in the presentation and Monthly Operating Report, and it raises several questions due to inconsistencies. Several months have passed since February, so it makes most sense to focus now on the most current data, to confirm that the water treatment plant is currently and reliably meeting requirements now. In addition to answering the questions below, **please provide a copy of the Benton Harbor June (and July when available) C*T calculation Excel workbooks so I can evaluate the most recent data EGLE and Benton Harbor are using to verify SWTR compliance.**

As you answer the clarifying questions, it will be helpful for you to update the June 3 presentation accordingly so there will be clear documentation that can be shared with community members. It will be helpful to add slides with the most recent data when you do this.

Here are my clarifying questions:

- Is chlorine pre dose shown on **slide 11** from Chlorine feed #1 and post dose at chlorine feed #2 as shown in slide 10?
    - Why are the values so different from the chlorine applied in the February MOR as shown in the table below?
    - Please update the presentation to indicate the location of each data set graphed on slide 11.
- Is the tap chlorine residual shown on **slide 11** the minimum daily value, the same as on slide 16?
    - Are all values on slide 11 minimum daily values?
    - Please update the presentation to clearly identify whether each of the plots are single grab samples, running averages, daily minimums, or a different measure that explains the discrepancies between monitoring locations.

- Does **slide 12** show the original or revised C*T calculations that are posted online in the file "CT-Determinations-Jan-Feb-revised"?
    - Please update the presentation to clarify.
        - **Slide 12** focuses on 2/21/22, the day after the CFE exceedance at the Benton Harbor water treatment plant, so I also focused my analysis on these days to see if I can make sense of the data. I have provided a data summary in the table below. Values in red that are inconsistent and need explanation.

	February MOR Raw chlorine applied (Assumed Chlorine feed #1 per slide 10) mg/L	Revised C*T calculation Segment 2 Flocculation Residual (Chlorine flocculation grab sampling location per slide 10) mg/L	Revised C*T Calculation Segment 3 Sedimentation (Plate settler continuous analyzer) mg/L	% change from seg 2 to seg 3 in absence of chlorine dose	June 3 presentation chlorine pre-dose (estimated from slide 11) mg/L
2/19/2022	1.6	1.5	1.87	25%	>1.5
2/20/2022	2.1	0.85	1.3	53%	>1.5
2/21/2022	1.9	0.98	1.04	6%	>1.5
2/22/2022	1.0	1.95	1.68	-14%	>1.5

    - Have I correctly assigned the chlorine values according to the dosing and monitoring locations shown in Slide 10?
    - Please explain the large variation in these reported chlorine values at different locations on each individual day.
    - How is the chlorine value measured after dosing in segments 2 and 3 higher than the dose applied on 3 out of 4 days (I'm not counting 2/21 because the small increase is likely due to instrumental variation)? These unexplained values are the ones that are used in C*T calculations.
- On 2/22/22, how is the segment 2 chlorine 1.95 mg/L after a dose of only 1.0 mg/L? It looks like this day should have lower chlorine measurements in segments 2 and 3 compared to 2/21, making 2/22 a more appropriate worst-case calculation for the month of February.
    - Case for using 2/22/22 as the worst-case illustration of C*T for February:
        - 2/22/22 should have lower chlorine values than 2/21.
        - 2/22/22 has a higher peak flow than on 2/21, reducing contact time
        - The total log inactivation on 2/22 should be smaller than it is on 2/21.

- In the February 2022 MOR, on 2/22/22, how is the raw chlorine applied and suction well chlorine applied both 1 mg/L, but the total is 4.3 mg/L? This irregular data stood out for me since it appeared the day after the CFE exceedance.

As I mentioned earlier, these clarifying questions focus on current compliance and will need to be evaluated again using the most recent data from June and July.

I still have several questions about the data presented prior to the new compliance and reporting procedures EGLE implemented for Benton Harbor in 2022. I would like to follow up directly with Ernie with my questions on those since they are not likely to have an impact on the ongoing response in Benton Harbor. Even though my questions may not be immediately relevant in Benton Harbor, they may be relevant to challenges faced at other water systems in Michigan.

I look forward to analyzing data from the June and July C*T calculations workbook and appreciate you providing a copy for review.

Sincerely,

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Submitted on Behalf Of:

Reverend Edward Pinkney, President, Benton Harbor Community Water Council

Nick Leonard, Great Lakes Environmental Law Center

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Nayyirah Shariff, Director, Flint Rising