



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
LANSING DISTRICT OFFICE



DANIEL EICHINGER  
ACTING DIRECTOR

February 17, 2023

VIA E-MAIL and U.S. POSTAL SERVICE

Melvin Burns, Interim City Manager  
City of Muskegon Heights  
2724 Peck Street  
Muskegon Heights, Michigan 49444

WSSN: 04580  
County: Muskegon

Dear Melvin Burns:

SUBJECT: Significant Deficiency Violation Notice (SDVN)  
City of Muskegon Heights (City)

The Department of Environment, Great Lakes, and Energy (EGLE), Drinking Water and Environmental Health Division (DWEHD), records show that the City is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399). This letter serves to document new violations of Act 399 and the status of the findings in the 2022 Sanitary Survey (Survey) findings letter dated April 25, 2022, and a Compliance Communication (CC) dated February 3, 2023. *The City must contact this office within 30 days of the date of this letter to discuss appropriate corrective action.*

Significant Deficiencies (SD):

SDs represent an immediate health risk to consumers of water and indicate non-compliance with one or more Act 399 requirements. SDs are serious sanitary deficiencies identified in water systems which include, but are not limited to, defects in design, operation, maintenance, or a failure or malfunction of the sources; treatment, storage, or distribution systems that are determined to be causing, or have the potential to cause, contamination into the public water supply (PWS).

SDs must be corrected within 120 days of the date of this letter, or a Corrective Action Plan (CAP), approved by EGLE, must be completed within 120 days of the date of this letter. Failure to meet the 120-day deadline is a treatment technique violation.

The following SDs was identified:

1. The City lacks the technical, managerial, and financial (TMF) capacity necessary to support a water utility. TMF capacity enables water systems to consistently provide safe drinking water to the public. The following items were either previously identified in the 2022 Survey or are additional observations indicating

a lack of sufficient TMF capacity. EGLE understands recent staff retirements and existing vacancies have contributed to these issues. To resolve this TMF SD, the City must address these items through an approved CAP. The City should also consider partnerships with neighboring systems to provide customers with the safest and most sustainable drinking water solution.

#### A. Water System Staffing

Per R 325.11905, the City must be under the supervision of a certified operator(s) in charge (OIC) that hold certifications equivalent to the classification of the PWS. The City must also have certified shift operators oversee water treatment plant (WTP) operations when the OIC is not on-site.

Currently, the City is meeting the OIC requirements through an interim contract with the city of Muskegon that expires on July 1, 2023. The contract provides supervisory oversight of water system operations and does not provide certified shift operators. EGLE is not aware of any formal efforts to recruit and retain a permanent OIC. This is of concern due to the known shortage of certified operators in the State of Michigan and the length of time it takes to recruit and onboard staff.

The WTP is staffed by one full time certified shift operator, one part time certified shift operator, and two, newly hired, uncertified operators. The part time certified shift operator is a full time employee at a neighboring utility and agreed to operate the City WTP on a contingent basis, as time allows. This leaves the City extremely vulnerable to not being able to staff the WTP. Act 399 prohibits operation of the WTP without a certified operator due to the significant public health risk of improperly treated water.

EGLE previously communicated these requirements in the February 3, 2023, CC, but has not received a written response and the required actions specified in that CC are still outstanding. This item will remain outstanding until the City has secured a long term OIC(s) and sufficient certified staff to reliably operate the WTP and distribution system.

#### B. WTP Maintenance

R 325.10611 states that a water system shall install and properly operate water treatment processes to reliably achieve the applicable microbial contaminant removal or inactivation percentages. Preventative maintenance ensures that the WTP will continue to function as designed and meet regulatory requirements. The City must develop a preventative maintenance program for major WTP processes, equipment, and analyzers. The preventative maintenance program should include, at a minimum, the coagulation, flocculation, sedimentation, filter,

and pump equipment, chlorine residual analyzers, online turbidimeters, chemical feed equipment, and WTP valve exercising schedules. As discussed in items (C) through (G), a lack of preventative maintenance has resulted in inoperable equipment.

#### C. WTP Equipment Reliability

R 325.11008 requires a minimum of two units to be provided for each treatment process for coagulation, sedimentation, and filtration. Currently, there is only one operable rapid mixer available for the coagulation process and one operable backwash pump for the filtration process. If the rapid mixer or backwash pump fail, the City will be unable to properly treat the water. On February 14, 2023, the rapid mixer failed and was repaired later that evening. This demonstrated the vulnerability of the City's treatment operations and a narrowly avoided water system emergency. The City must have two operational rapid mixers and backwash pumps to be in compliance with R 325.11008.

#### D. WTP Capacity

R 325.11006 defines the rated capacity for WTPs as the maximum allowable rate for the pretreatment and filtration processes. With all equipment in operation, the City has a WTP rated capacity of 25 million gallons a day (MGD). The City has twelve filters, each rated for approximately 2.1 MGD. Only five filters are in regular use, with the remaining seven filters unable to be in service due to various issues. *With only five filters available, this results in a new WTP rated capacity of 10.5 MGD.* While the City's current maximum day demands can be met with the new capacity rating, if equipment and treatment units continue to break down with the lack of maintenance, the City may not comply with capacity requirements.

#### E. Turbidimeter Calibrations

R 325.10720 requires the monitoring of turbidity and the proper calibration of turbidimeters. At the time of the 2022 Survey, the City was not using an approved procedure. It is EGLE's understanding the necessary standards are on site to comply with this requirement. *This item will remain outstanding until an approved procedure is in use.*

#### F. Chlorine Analyzer

R 325.10720(3) requires continuous monitoring for residual disinfectant at an entry point to the distribution system, and requires the daily minimum to be recorded. EGLE staff issued violation notices for separate incidents on May 10, 2022, and February 7, 2023, for failure to have the chlorine analyzer in service. Additionally, it was recently discovered that the chlorine analyzer is not associated with any SCADA or call out alarms system, which is a vulnerability as

responding to low disinfection levels is a public health priority. *To come into compliance, the City 1) must ensure the SCADA system is reporting the true measured chlorine residual 2) program an alarm call out for low chlorine residuals less than 0.2 milligrams per liter 3) develop and implement a standard operating procedure for maintenance and verification of the instrument.*

#### G. Pump Reliability

R 325.11011 states that a pumping facility shall have sufficient capacity to meet the service demands with the largest unit removed from service. Currently, only two out of six low service pumps are operable, two out of three high service pumps are operable, and only one out of four Sherman pumps are operable. The reliability of the Sherman pump station is critical in several emergency scenarios. *The inoperable pumps must be repaired.*

#### H. Financial Capacity

R 325.11606 outlines the required components of Asset Management Programs (AMP): inventory of assets, methods used to determine the asset criticality and consequence of failure, level of service goals, a Capital Improvements Plan that identifies system needs for 5 and 20-year planning periods, and an explanation of the funding structure and rate methodology that provides sufficient resources to implement the AMP. The City's 2018 AMP does not meet requirements. It is EGLE's understanding that the City has started a comprehensive AMP update using Drinking Water Asset Management grant funds. *The updated AMP must meet EGLE requirements.*

Additionally, unpaid invoices have caused a delay in receiving needed lab standards or compliance sample results. For example, the per-and polyfluoroalkyl substances compliance results for the third and fourth quarters of 2022, have not been received by EGLE, to date, because the City has not paid the laboratory services invoice. The City must be able to approve and pay routine expenses in a timely manner. The City must also ensure that their financial procedures prioritize necessary water system expenses and protection of public health. *To resolve this concern, the City must be able to reliably finance water system needs.*

EGLE's investigation is considered complete. This SD begins as of the date of this SDVN and will continue until the City completes corrective action. The City must complete corrective action within 120 days of the date of this SDVN or be in compliance with an EGLE approved CAP (i.e. Administrative Consent Order) and schedule approved by this office. The City must contact this office within 30 days of the date of this SDVN to discuss appropriate corrective action. You must also notify EGLE, in writing, within 30 days of correcting the SDs.

If you have any factual information that you would like EGLE to consider regarding the SDs identified in this SDVN, please provide it in a written response to this office by March 17, 2023.

Please note that any if any SD remains unresolved at the time the annual Consumer Confidence Report (CCR) is distributed, the City is required to provide a Special Notice (SN) in its CCR. The City must inform their customers on the details regarding the unresolved SD, including the date the SD was identified by EGLE; the EGLE approved plan and schedule for correction, along with the current progress toward this approved plan. This SN requirement shall be included in all future CCRs until the SD has been resolved.

### Deficiencies

Deficiencies indicate non-compliance with one or more Act 399 requirements, which include defects in a PWS's infrastructure, design, operation, maintenance, or management that cause, or may cause, interruptions to the "multiple barrier" protection system and adversely affect the PWS's ability to produce safe and reliable drinking water in adequate quantities. The majority of these items were identified in the 2022 Survey letter and have not been adequately addressed.

1. R 325.11112(c) states storage tanks shall have no unprotected openings. Ten States Standards, 7.0.7 and 7.0.9, outlines requirements for overflows, and tank vents. The 2022 Survey letter included a list of storage tank deficiencies that need to be corrected. The City's Survey response letter indicated these corrections were in progress, but EGLE has not received documentation that these items have been corrected. *The City must address the storage tank deficiencies.*
2. R 325.12303 states that Emergency Response Plans (ERP), at a minimum, shall outline a program for rapid correction or mitigation of emergencies. The City's ERP, dated May 2, 2022, did not contain all the required elements listed in the 2022 Survey letter. *The City must update their ERP to meet requirements.*
3. R 325.11403 prohibits cross connections for all customer classes, including residential customers. The 2022 Survey required an implementation plan for inclusion of residential customers in the City's Cross Connection Control Program. To date, EGLE has not received an implementation plan. *The plan must be submitted to EGLE and implemented.*
4. R 325.11203 states that a water supply shall conduct a Reliability Study (RS) to determine the quantity of water needed for the waterworks system and shall update the RS every five years unless a waiver is requested and approved by EGLE. The City indicated in their Survey response letters that a waiver would be requested. *EGLE has not received a waiver request and one must be submitted, or a RS update completed, to come into compliance.*

5. Ten States Standards, Section 5.5.9, requires liquid chemical storage tanks to have a level indicator. It is EGLE's understanding that the level transducers for the sodium hypochlorite and aluminum sulfate day tanks are not in service and chemical doses are estimated by measuring the drawdown using a yard stick. *The level transducers must be repaired to allow for accurate chemical doses and usage to be calculated.*

*The City must contact this office within 30 days of the date of this SDVN to discuss appropriate corrective action.*

We anticipate and appreciate your cooperation in addressing these findings. EGLE is committed to working with the City to develop a CAP. If you have any questions, please feel free to contact me at 906-630-4107, or by e-mail at [BolfM@Michigan.gov](mailto:BolfM@Michigan.gov).

Sincerely,

**Michael Bolf**

Digitally signed by  
Michael Bolf  
Date: 2023.02.17  
12:11:14 -05'00'

Michael Bolf, P.E.  
Engineering Section Manager  
Drinking Water and  
Environmental Health Division  
EGLE  
906-630-4107

cc: Khi Guy, City of Muskegon Heights  
Eric Oswald, EGLE  
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