

REPORT OF THE PRETREATMENT COMPLIANCE INSPECTION
AT

City of Mount Vernon

109 N. Hickory Street
P.O. Box 70
Mount Vernon, Missouri 65712
NPDES Permit No.: MO0022381

BY
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION (ECAD)
WATER BRANCH / DRINKING WATER AND INSPECTIONS SECTION (WB/DWIS)

ON
May 30 - June 1, 2023

At the request of the Water Branch (WB), Enforcement and Compliance Assurance Division (ECAD), a pretreatment compliance inspection was conducted of the City of Mt. Vernon's, approved Pretreatment Program on May 30, 31 and June 1, 2023. To direct the inspection, a checklist was used that evaluates all important elements of the Pretreatment Program. A copy of the checklist is attached to this report (Attachment 1). The inspection consisted of a discussion and file review with the City's program staff.

PARTICIPANTS

City of Mt. Vernon

- Dustin Davis, Public Works Director/ Pretreatment Coordinator
- Alan Frantz, WWTF Operator

U.S. Environmental Protection Agency (EPA), Region 7

- Naji J. Ahmad, Environmental Engineer, ECAD/WB/DWIS

INTRODUCTION

The City of Mt. Vernon (City), with a population of 4,960 (2020 census estimate), owns and operates an activated sludge wastewater treatment facility (WWTF) under the National Pollutant Discharge Elimination System (NPDES) permit number MO0022381. The NPDES permit was last issued on January 1, 2020, modified on September 1, 2020, and expires on March 31, 2023. The permit sets forth effluent limitations, monitoring requirements, and standard and specific permit conditions. Special Condition 15, of the permit, requires the City to implement and enforce their approved pretreatment program in accordance with the requirements of 40 CFR

Part 403 and submit an annual report by March 31st of each year describing the City's pretreatment activities during the previous calendar year.

According to the NPDES permit, the treatment facility is designed to treat an average flow of 0.754 million gallon per day (MGD), a design flow of 1.35 MGD, and design sludge production of 230 dry tons per year.

The plant consists of equalization basin, headworks step screen, grit chamber, two oxidation ditches, two clarifiers, two tertiary sand filters, ultraviolet (UV) disinfection, three effluent concrete re-aeration steps, and three aerated sludge holding tanks. Treated effluent is discharged into a tributary to William's Creek via outfall 001. The City does not accept hauled waste.

The WWTF, currently, receives discharges from at least five Significant Industrial Users (SIUs) that make up about 20% of its actual dry weather residential, commercial, and industrial influent of 0.75 million gallons per day MGD. All biosolids generated from the activated sludge holding tanks are land applied. During 2022, the City generated 39.8395 dry tons all of which was land by the City.

The City of Mount Vernon's Pretreatment Program was originally approved on July 16, 1984 and then was removed from the NPDES permit in 1997 due to the termination of operation of regulated industries that discharged process wastewater to the WWTF.

In February 2015, the U.S. EPA inspected Mount Vernon WWTF and identified industries that met the definition of Significant Industrial Users (SIUs) which later was verified by the Missouri Department of Natural Resources (MDNR) in November 2015. Therefore, on December 2, 2015, the MDNR sent a letter to the City activating the City's Pretreatment Program (Attachment 2).

On February 25, 2016, the MDNR determined that the three industries: Continental Manufacturing, T & C Stainless, and Reyco Granning Suspensions, are subject to requirements in the Metal Finishing Point Source Category, 40 CFR Part 433.

In January 2019, the City evaluated its local limits (Attachment 3) and on May 6, 2020, the City submitted pretreatment program modifications (Attachment 4) that included modification to the Sewer Use Ordinance (SUO) Chapter 720, the 2019 local limits evaluation, and revision to the Enforcement Response Plan (ERP). The MDNR approved the modification on August 24, 2020. Then, the MDNR reissued the NPDES permit on September 1, 2020 (Attachment 5), to include the approval of the Pretreatment Program modification.

The current Mt. Vernon's Sewer Use Ordinance Title VII, Section 720 was enacted under Ord. No. 13.112 on September 22, 2020. The ordinance gives the City the authority to implement and enforce the Pretreatment Program, such as issuing permits for a duration of five years or less; requires the submittal of permit renewal applications prior to the expiration of the permit; and the right to inspect, sample, enforce, but it does not allow the City to collect fines up to one thousand

dollars (\$1,000) per violation per day [403.8(f)(1)(vi)]. The reason for this is the 2011 Missouri Revised Statutes Section 79.470 for Fourth Class Cities (Wentzville meets that category) sets penalties for all ordinance violations to not exceed a fine of five hundred dollars.

Currently, the City regulates five SIUs which are located within the City limits. Of those five SIUs, three: Reyco Granning Suspensions, MARCO (formally Continental Manufacturing), and T&C Stainless are categorical and subject to CFR 40 Part 433 Metal Finishing Standards. The remaining two SIUs: Quala (Formally Sani-Kleen Company) and Schreiber Foods are non-categorical industries.

The expired NPDES permit, that was issued on January 1, 2020, included the requirement for the City to technically evaluate the adequacy of its local limits and submit a written report by July 1, 2020. The City submitted the 2019 local limits evaluation to the MDNR on May 6, 2020.

Current local limits listed in Table 1 below are included under Section 720.020.A.3 of the SUO that reads, “Prohibited Masses. Any waste discharges containing the following pollutants to such a degree that the monthly average total mass loading from all SIU's exceed the quantity specified below. The Public Works Director will distribute the permit limitations in pounds per day for all users that meet the definition of SIU as defined by City ordinance. At the discretion of the Public Works Director, monthly average pollutant concentrations may be imposed based on the allocation. All metallic pollutants are for total metals unless otherwise specified. Table 1 includes the list of masses as follows:

Table 1, Total Mass Allowable (lbs./day) from SIU's (Monthly Average)

Pollutant	Limit	Pollutant	limit
Silver	0.294	Nickel	0.493
Arsenic	0.084	Lead	0.108
Cadmium	0.011	Selenium	0.049
Cyanide	0.076	Zinc	4.225
Chromium	2.132	BOD	1250
Copper	0.195	TSS	1788
Mercury	0.009	Ammonia	180
Molybdenum	0.084	pH (s.u.)	5.5-11.0

FINIDNG AND OBSERVATIONS

1. The City has issued a complete industrial permit to their categorical SIUs. All permits are effective January 1, 2021 and expire on December 31, 2025. Current permits; however, do not reflect the requirement of the SUO Title VII, Section 720 that was enacted under Ord. No. 13.112 on September 22, 2020.
2. Continental Manufacturing was purchased by MARCO on April 12, 2023, and Sani-Kleen Company was purchased by Quala in late 2022. Both MARCO and Quala were operating

without permits. City personnel could not justify why the City has yet to issue permits to both industries.

3. Records indicate that the City is not taking enforcement as required by the general pretreatment regulations and is not following the requirement of the ERP.
 - a. The City reported Reyco Granning Suspensions and Continental Manufacturing were in significant noncompliance (SNC) for the 2020 calendar year. The City did not issue notices of violation (NOVs) but published the two SIUs in the newspaper on June 9, 2021.
 - b. The City also reported Reyco Granning Suspensions, Continental Manufacturing, and Sani-Kleen Company were in SNC for the 2021 calendar year. The City did not issue NOVs and there was no indication that the industries were published in the newspaper.
 - c. The City also reported Continental Manufacturing was in SNC for the 2022 calendar year. The City did not issue a NOV and there was no indication that the industry was published in the newspaper.
 - d. There are no NOVs issued for late reporting or reports not including certification statement.
4. According to City personnel, compliance monitoring is done for all regulated pollutants by a third-party contractor. During my records review I identified the following:
 - a. Samples are analyzed 60-90 days after the sampling event.
 - b. pH analyses are not conducted within 15-minute hold time requirement.
5. There are no records indicating that when parameter limits were exceeded, that resampling of those parameters were completed. My review of Continental Manufacturing's second semi-annual report for 2021, showed the SIU exceeded their zinc and pH effluent limits in September 2021 and pH in the first half 2022. The SIU did not repeat the sampling, and as of the date of this inspection, the City did not take necessary enforcement. I informed Mr. Davis that failure to implement and enforce the approved pretreatment program is a violation of the NPDES permit.
6. The City allowed CIUs, that are subject to the Metal finishing standard 40 CFR Part 433, to prepare and implement a toxic organic management plan (TOMP) in lieu of periodic monitoring for Total Toxic Organics (TTO) parameters. I explained to Mr. Davis that a CIU can demonstrate compliance by adhering to the TOMP and submitting periodic certification statements attesting to the fact that no dumping of concentrated toxic organic pollutants has occurred and that the facility's TOMP is being implemented. I added, the TOMP should identify all potential sources from which toxic organic materials could enter the wastestream, and should also identify proposed control measures to eliminate the possibility. City personnel were unable to present the TOMP plans.
7. All industries are required to submit semi-annual monitoring reports that include a compliance certification statement and a TTO certification statement. Reports were missing the certification statement.

8. The 2022 industrial inspections were performed by the consultant and Mr. Davis. Reports are filed in the industry's files. According to Mr. Davis, inspections will be performed annually by the Pretreatment Coordinator using a checklist similar to the EPA Region 7 Industrial User Inspection Checklist. Inspection reports appeared adequate.
9. During my file review, I observed that the industrial files do not have the necessary documentation as recommended by the agency checklist especially enforcement documentations.

SLUDGE MANAGEMENT PROGRAM

One function of the Pretreatment Program is to protect the City's sludge from metals contamination. As part of this inspection, the most recent four calendar years (2019-2022) of sludge monitoring reports were reviewed to determine the Pretreatment Program's effectiveness. Below is the table that compares the City's peak observed metals levels for 2022 against the statutory ceiling and the WWTF's average level against the exceptional quality (EQ) sludge level specified by the 40 CFR Part 503 Sludge regulations. Because the City sampled its sludge annually, the monthly average is the maximum value observed. In 2022, the WWTF generated 39.8395 dry tons (dt) of sludge and land applied all of it.

Table 2, 2022 Mt. Vernon's Sludge Quality (mg/kg)

Pollutant	503 Ceiling	503 EQ	Max	Mo. Avg.	Max/Ceiling	Avg./EQ
Arsenic (As)	75	41	3.97	3.97	5.29%	9.68%
Cadmium (Cd)	85	39	3.97	3.97	4.67%	10.18%
Chromium	3000	1200	46.85	46.85	1.56%	3.90%
Copper (Cu)	4,300	1,500	297.78	297.78	6.93%	19.85%
Lead (Pb)	840	300	33.38	33.38	3.97%	11.13%
Mercury (Hg)	57	17	0.79	0.79	1.39%	4.65%
Molybdenum (Mo)	75	----	3.97		5.29%	
Nickel (Ni)	420	420	66.7	66.7	15.88%	15.88%
Selenium (Se)	100	36	3.97	3.97	3.97%	11.03%
Zinc (Zn)	7,500	2,800	1477	1477	19.69%	52.75%

The table above shows that the 2022 WWTF's sludge is well below both the ceiling level and EQ level for all metals.

During my interview with the WWTF operator, Mr. Alan Frantz indicated that he was hired by the City in December 2019 after the City terminated the previous operator. He stated the former operator was terminated as a result of the MDNR inspection in April 2019, in which the MDNR found significant deficiencies in the operation and management of the WWTF and issued a NOV in May 2019. Mr. Frantz added that when he was given the responsibilities of managing the operation of the WWTF, all oxidation ditches were full of sludge that was held by the previous operator for more than two years.

Therefore, the City hauled and disposed of 82 dt of sludge in 2019 and 73.254 dt in 2020 to the City of Springfield's WWTF with the approval of the MDNR. Therefore, in 2020, the City returned to land application and land applied 42.858 dt and land applied 49 dt in 2021.

Table 3, 2021 Mt. Vernon's Sludge Quality (mg/kg)

Pollutant	503 Ceiling	503 EQ	Max	Mo. Avg.	Max/Ceiling	Avg./EQ
Arsenic (As)	75	41	2.82	2.82	3.76%	6.88%
Cadmium (Cd)	85	39	2.82	2.82	3.32%	7.23%
Copper (Cu)	4,300	1,500	297.78	212.55	6.93%	14.17%
Lead (Pb)	840	300	33.38	23.12	3.97%	7.71%
Mercury (Hg)	57	17	0.79	0.28	1.39%	1.65%
Molybdenum (Mo)	75	----	3.97	5.64	5.29%	
Nickel (Ni)	420	420	66.7	60.89	15.88%	14.50%
Selenium (Se)	100	36	3.97	2.82	3.97%	7.83%
Zinc (Zn)	7,500	2,800	1477	1003.53	19.69%	35.84%

CONCLUSION AND RECOMMENDATIONS

1. The City failed to have qualified personnel to adequately implement the program which is a violation of 403.8(f)(3) requirement. Mr. Davis was given the responsibility of coordinating the Mount Vernon's approved program. However, the City never provided him with the opportunity to receive a formal pretreatment training. The City should give the Pretreatment Coordinator and other staff members responsible for the implementation of the Pretreatment Program the opportunity to attend pretreatment training courses. The City should also cross-train other qualified staff members.
2. Program personnel need to revisit and become familiar with the Enforcement Response Plan (ERP) document, the Sewer Use Ordinance (SUO), and general Pretreatment Regulations.
3. The City should evaluate its industrial permits and revise them to reflect the requirement of the current SUO. The City should also include all the necessary elements needed in a good enforceable permit.
4. In order to verify compliance with applicable requirements, the City should conduct thorough inspections of its industries. Prior to inspections, City personnel should carefully review industry files, including permit applications, compliance and monitoring records, and the Categorical Standard if applicable. Inspections should consist of a facility walkthrough, records review, and an evaluation of the need for a spill prevention plan and/or slug control plan if applicable. In addition, the City should complete the industrial user inspection checklist during the interview with facility staff. The City should also review all TOMP and Spill/Slug Control Plans submitted by industries when applicable.
5. The City does not appear to be taking proper enforcement and issuing NOVs. The City did not appear to publish or provide public notification all SIUs that were in SNC. The City must

annually publish in newspaper(s) or largest general circulation that provide public notice, a list of SIUs that were in SNC at any time during the previous 12 months.

6. The City should ensure compliance monitoring analytical result reports are submitted in a timely manner by the contractor and that the contractor meets the pH 15-minute holding time required by 40 CFR 136.
7. The City should examine all monitoring results more thoroughly against permit limits and its local limits to assure compliance and to assess that proper sampling procedures are being used.
8. Records indicate that industries did not conduct repeat the sampling within 30 days when a parameter is exceeded, and the City did not take necessary enforcement against the noncompliance.
9. The City staff should also review the definition of Significant Noncompliance and have a solid understanding of what types of violations constitute a SNC status in addition to effluent limit exceedances.
10. The City should ensure that all monitoring reports include a signed Compliance Certification statement.
11. The City should continue the proper operation and management of the WWTF's sludge and adequately land apply or dispose of it. The City should also contact Mr. Seth Draper, the EPA Biosolids Center of Excellence Coordinator in Region 7 at Draper.Seth@epa.gov. to sign up for electronic reporting of annual sludge reports.

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Nicole Moran
Section Chief, WB/DWIS

ATTACHMENTS

1. PCI Checklist
2. 2015 Program activation
3. 2019 local limits
4. 2020 Program modification
5. 2020 NPDES Permit