

REPORT OF THE PRETREATMENT COMPLIANCE AUDIT

Emporia Pretreatment Program

1 Gavin Road
Emporia, Kansas 66801

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
KS0046728

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BY
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
WATER DIVISION
PERMITS AND LOANS BRANCH



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ACRONYMS

AA	Approval Authority
BOD	Biochemical Oxygen Demand
CA	Control Authority
CFR	Code of Federal Regulations
CIU	Categorical Industrial User
CROMERR	Cross-Media Electronic Reporting Rule
EPA	U.S. Environmental Protection Agency
ERP	Enforcement Response Plan
GPD	Gallons Per Day
IU	Industrial User
KDHE	Kansas Department of Health and Environment
lbs/day	Pounds Per Day
MAHL	Maximum Allowable Headworks Loading
MAIL	Maximum Allowable Industrial Loading
MGD	Million Gallons Per Day
NCSIU	Noncategorical Significant Industrial User
NPDES	National Pollutant Discharge Elimination System
O&G	Oil and Grease
PCA	Pretreatment Compliance Audit
R7	Region 7
SCP	Slug Control Plan
SIU	Significant Industrial User
SNC	Significant Noncompliance
SUO	Sewer Use Ordinance

TOMP	Toxic Organic Management Plan
TSS	Total Suspended Solids
TTO	Total Toxic Organics
WWTP	Wastewater Treatment Plant

INTRODUCTION

A PCA was conducted on the city of Emporia, Kansas, approved pretreatment program on February 15 – 16, 2022. To direct the PCA, a checklist was used that evaluates all important elements of the pretreatment program. A copy of the checklist is included with this report. The PCA also consisted of a discussion and file review with program staff, an oversight inspection on one industrial user, and a review of laboratory procedures as applicable to the pretreatment program. This narrative report presents the PCA findings. Documentation that was collected during the audit will be submitted to and retained in the EPA’s facility files.

PARTICIPANTS

City of Emporia

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Kansas Department of Health and Environment

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PROGRAM OVERVIEW

The city of Emporia, Kansas, owns and operates one WWTP and is the CA for its industrial pretreatment program. The WWTP has a design daily average flow of 4.6 MGD, actual daily average flow of 3.6 MGD, and a design peak flow of 11.0 MGD. The CA currently regulates 10 significant industrial users.

LEGAL AUTHORITY

The CA’s SUO Chapter 28, Article III was originally approved by the KDHE and the EPA on April 22, 1991. An ordinance evaluation was performed by the EPA and KDHE on July 9, 2021, and comments were provided to the CA. The ordinance is currently undergoing a revision and has been submitted to the local governing body for comments and approval. The next step will be to submit it to the EPA and KDHE for review.

The ordinance gives the CA the authority to implement and enforce its pretreatment program such as issuing IU permits; requiring the submittal of permit renewal applications a minimum of 30 days prior to the expiration date; and the right to inspect, sample, enforce, and collect penalties. The SUO also includes a provision to address confidential business information.

LOCAL LIMITS

The EPA and KDHE assisted the CA in the development of its local limits. The EPA approved the local limits for 12 metals, TSS, ammonia, and BOD on January 24, 2013. There has not been a formal reevaluation of the local limits since inception. The CA has, however, collected additional data on mercury to reassess that parameter following implementation of the Dental Amalgam Rule. Since inception of the local limits, there has also been an upgrade to the WWTP.

The amount of BOD and TSS loading from the IUs was discussed during the audit. The CA provided a spreadsheet that documents the amount of BOD and TSS received from each IU. It appears that the average amount of BOD received from each IU (assuming a 30 day industrial work schedule) is around 2,301 lbs/day. The calculated MAIL for BOD in 2013 was 5,308 lbs/day. The amount of BOD received from the monitored SIUs is 43 percent of the MAIL. This value should be within the WWTP's capacity to treat the BOD based on the 2013 local limit calculations. The MAHL for BOD is 10,920 lbs/day.

SIGNIFICANT INDUSTRIAL USERS

The industrial community has remained relatively constant since the last EPA PCA. One CIU has been added since the last EPA audit. Of the 10 previously mentioned SIUs, four industries are subject to federal categorical pretreatment standards. Two of the CIUs are subject to the Rubber Manufacturing categorical standard 40 CFR Part 428 and the other two are subject to the Metal Finishing categorical standard 40 CFR Part 433.

INDUSTRIAL WASTE SURVEY

The CA is performing a continuous review of the industrial/commercial customers in Emporia to identify potential SIUs. The last formal survey was performed in 2017. Prior to the PCA, the EPA provided the CA with a list of businesses (generated from Reference Solutions) via email that are in the Emporia area that can be used as another tool to aid in identifying unknown SIUs. This list was also briefly discussed during the audit.

INDUSTRIAL USER PERMITS

Permits for CIUs are currently issued with a three-year duration. Permits for NCSIUs are currently issued with a one-year duration. The CA indicated that the fee structure is under review and is expected to be increased and that when the final amount has been determined, all permits will be issued on a five-year basis. The permit applications that were available appeared to be complete and received by the CA within the allowed time frames. The permit application for Vektek could not be found in the industrial files. Ms. Lingenfelter indicated permit applications are normally received electronically and that she would forward a copy of it for review; however, a copy of the Vektek permit application has not been received.

The IU permit that was evaluated as part of the PCA file review contained the necessary elements that should be included in a well written and enforceable permit. Permits include industrial process descriptions, provisions on accidental discharge, sampling and analytical procedures, self-monitoring and reporting frequencies, etc. Local limits have not been incorporated into the IU permits as it appears the categorical discharge limitations are more stringent for CIUs. A surcharge program has been established for excessive BOD and TSS discharges from IUs. This program is based on the concentration of BOD and TSS discharged instead of quantity.

SLUG CONTROL PLANS

The requirements for IU SCPs are determined as part of the CA's IU inspection process. The CA uses a checklist to identify potential issues with the SCPs that are received. The SCP that was reviewed during the audit appeared to contain all the required elements as established by the federal pretreatment regulations; however, the plan was not signed. The CA indicated that these plans are normally received via email.

INDUSTRIAL INSPECTIONS

All industries were inspected and sampled during the past twelve months by the CA. Inspections were not performed during 2020 due to concerns with the coronavirus pandemic; however, IU sampling was performed by the CA during 2020. Inspections are normally performed annually using a checklist that is similar to the EPA R7 *Industrial User Inspection Checklist*. Inspections consist of completing the checklist, pre-records review, evaluation of the industry's need for a SCP, and a facility walkthrough. Sampling by the CA is also typically performed during the inspection. The inspection report forms that were reviewed appeared to be complete.

COMPLIANCE MONITORING, SELF-MONITORING, and REPORTING

Self-monitoring frequencies are monthly for NCSIUs and quarterly for CIUs. Self-monitoring criteria is described in detail in the SIU permits. Reporting requirements are monthly for NCSIUs and semiannually for CIUs. Periodic monitoring reports and several other IU reports are submitted to the CA electronically. This method of reporting does not appear to meet the requirements established in 40 CFR Part 403.8(g) for CROMERR.

The general pretreatment regulations allow industries that are subject to 40 CFR Part 433 to develop and implement a TOMP in lieu of routine monitoring, and further allow CIUs to demonstrate compliance with TTO requirements by certifying that the facility is adhering to the plan. The TOMP that was reviewed in the Camso IU file was not signed, but appeared to contain adequate information. Also, the TOMP certification statement required by the metal finishing categorical standard is not routinely submitted to the CA with periodic compliance monitoring reports.

The CA's laboratory is certified by the KDHE to analyze pH and specific conventional pollutants for industrial compliance performance. The EPA conducted a cursory review of the in-house laboratory test procedures that are used for industrial monitoring and noted potential issues with the total suspended solids test procedure. The CA indicated that the dry time is typically more than three hours; however, the drying start time is not recorded to verify this. Also, the cycle of drying, cooling in a desiccator, and weighing each sample is not repeated to obtain a constant weight as required by the approved test procedure. The redry process is instead performed as part of a drying study. The last dry study was performed in 2019 and included two replicate samples from the publicly owned treatment works treatment plant influent instead of industrial wastewaters. Each study sample included three redry cycles to show a constant weight. The redry study does not appear to conform to the requirements of 40 CFR Part 136.6 to require initial demonstration of comparability that would typically include at least four replicate samples. The study also does not represent industrial wastewaters. The BOD and pH test procedures appeared to be adequate.

ENFORCEMENT

The CA's ERP was originally approved by the EPA and KDHE on March 26, 1991, and is currently undergoing a revision at the request of the KDHE. The ERP includes a series of elevated procedures to

deal with noncompliance for permit limit exceedances and reporting violations, but appears to be lacking in noncompliance responses to unpermitted discharges, sampling and monitoring violations, violations of compliance schedules, operation and maintenance, recordkeeping, etc. The informal enforcement actions to permit limit exceedances and reporting violations include verbal warnings, letters of warning, phone/email notification, and meetings. Formal enforcement actions include permit revocation; termination of water or sewer service; issuing a notice of violation, administrative order, compliance schedule, and/or administrative fine.

During review of the industrial files, it appeared that most enforcement activities, such as telephone logs and written communications, were taken in accordance with the guidelines of the ERP and were included in the individual industry files except as noted below for Camso. When violations occur, email notifications are normally sent to the industrial user. The CA's records indicated that there were no industrial users in SNC during 2020 or 2021. There were 14 instances of infrequent noncompliance reported for 2020 and 2021. These were for late reporting and permit limit exceedances. The CA uses a spreadsheet for calculating SNC for O&G exceedances. This same method was not being used for metals.

Further review of the Camso industrial files suggested that there might have been an undetected SNC for zinc discharge results during the second half of 2020. The discharge monitoring records were scattered throughout the file for this industry which made it difficult to determine the compliance status. It also appeared that some of the records were being maintained electronically. The EPA, therefore, requested that the CA locate all Camso monitoring records for the second half of 2020 so that a more accurate compliance determination could be made. The CA obtained data from Camso and provided a summary of the data and calculations via email after the audit. The calculation placed Camso in SNC during the second half of 2020. It was also discovered after the audit that Camso had not previously submitted some of their zinc monitoring data to the CA. A similar reporting issue for pH was identified on this same IU during the last EPA audit with the lack of reporting permit exceedances within 24 hours to the CA. Because the zinc issue was identified after the fact, public notification of the SNC could not be accomplished timely by the CA. The CA has since implemented a system to calculate compliance status for metals concentrations using a spreadsheet that is similar to the one being used to make compliance determinations on O&G discharge results.

OVERSIGHT INSPECTION

An industrial user compliance inspection was performed at Camso by CA staff during the PCA. This IU inspection was requested so that the EPA could evaluate the effectiveness, reliability, and completeness of the CA's inspection procedures in the administration of their approved pretreatment program. Prior to the IU inspection, Ms. Lingenfelter indicated that she took over the program in July 2021 and had minimal experience performing inspections. She indicated that her previous duties were only to collect samples at each IU.

Camso specializes in off-road tires, wheels, rubber tracks and track systems and is regulated as a rubber manufacturer and metal finisher under 40 CFR Parts 428 and 433, respectively. The facility has a wastewater pretreatment system for the acid rinse line that consists of a precipitation settling tank, sock filters and pH adjustment. The discharge from this system is continuous during operational periods and is identified as outfall 01. There are three other outfalls that have been identified as regulated monitoring points. Two of the four outfalls were visited as part of the walk-through inspection. Samples were not collected as part of the inspection process since the inspection on Camso was performed as a last-minute replacement.

Areas and items observed or discussed by the CA inspector included some of the chemical storage areas in proximity to floor drains and their associated containment structures, the product rinse bay and associated wastewater generation processes, and interview questions using the checklist. Items that were not closely observed or questioned were all outfall monitoring points and associated waste streams that lead to those discharge locations (including potential dilution streams), all chemical storage and containment structures including how these materials are managed in accordance with the industry's SCP, water balance verification, data verification to ensure all monitoring data matches with what is submitted to the CA, verification of industrial sampling practices and equipment, and other requirements contained in the industry's SCP such as verifying spill kits and spill control training requirements, etc. After being pointed out by the EPA auditor, some of these items were discussed with the CA at the end of the IU inspection or were followed up on by the CA after the inspection. A copy of the IU inspection report was requested from the CA upon completion. The IU inspection report was not received prior to the date of this audit report.

HAULED WASTE

The CA accepts domestic waste at the headworks. Car wash mud is also accepted and placed into drying beds and then hauled to a permitted landfill once dry. The CA accepts up to 30 loads of hauled waste per month from three haulers. Each hauler is required to have a hauler permit. Loads are randomly monitored for pH.

SEWAGE SLUDGE METALS MASS BALANCE

One function of the Emporia pretreatment program is to protect the WWTP's sewage sludge from high concentrations of metals. The EPA performed a mass balance of metals concentration in the sewage sludge against the metal finishing pretreatment standards and compared that data with the known flows from the metal finishing SIUs with the idea of identifying potential unknown or noncompliant metals working or finishing related operations.

The mass balance calculations did not identify a concern with the average metal concentrations in the sewage sludge. The maximum contaminant levels for zinc and copper in the sewage sludge, however, suggest there might have been high concentration slug discharges in between compliance sampling events during 2019 and 2020, respectively. The maximum results for zinc indicate that the anticipated additional industrial loading to meet metal finishing pretreatment standard concentrations would have been as much as 29,000 GPD of process wastewater. The maximum results for copper over the period evaluated indicate that the anticipated additional industrial loading to meet metal finishing pretreatment standard concentrations would have been as much as 27,000 GPD of process wastewater.

DENTAL AMALGAM RULE

The CA sent out the one-time compliance report questionnaire and has received responses from all dental facilities that were identified. The CA continues to work with existing and new facilities. The EPA reviewed one of the one-time compliance reports and it appeared to be complete and was the original form.

RECORDS MANAGEMENT

Most of the files were found to be well maintained and included at least three years of industrial reporting. Files are kept at the wastewater laboratory and are available to the public. Industrial files included current permits, permit applications, inspection reports, enforcement documentation, slug

control plans, etc. The compliance sampling and self-monitoring reports for Camso, however, were not well organized which made it difficult to track their compliance history and status.

CONCLUSION, EXPECTATIONS and RECOMMENDATIONS

The CA continues to implement their approved pretreatment program. The following items are provided to address federal regulatory requirements applicable to the Emporia pretreatment program. Please note that hyperlinks have been inserted for referenced guidance materials that are identified in blue font:

1. The CA must continue to pursue updates to the SUO and ERP with a goal to finalize these documents within one year from the date of the audit and submit the updated versions for review by following the EPA R7 *Pretreatment Program Modifications* strategy that was previously provided to the CA via email.
2. In accordance with 40 CFR Part 122.44(j)(2)(ii), the CA must perform a written technical evaluation of the need to revise local limits under 40 CFR Part 403.5(c)(1) following NPDES permit reissuance. This technical evaluation should be performed within one year of NPDES permit reissuance unless the NPDES permit identifies a separate time frame to complete the evaluation. Reviews should continue throughout the permit cycle as deemed necessary to protect the WWTP from harmful contributions. The EPA's [Local Limits Development Guidance](#), Chapter 7, provides a detailed explanation of how and when to perform technical reevaluations. The CA must maintain the evaluation records so that those records can be reviewed during future PCAs or when requested by the EPA and KDHE. Any anticipated changes to the local limits must be submitted to the AA for review.
3. The CA must ensure all industrial reports (e.g., monitoring reports, permit applications, control plans, etc.) that are required to be submitted to the CA are submitted with original signatures and an appropriate certification statement when applicable. The EPA has developed guidance for CA's to become CROMERR compliant if desired. This document is located on the EPA's website and is entitled [Publicly Owned Pretreatment Works \(POTW\) Programs and Electronic Reporting](#).
4. The CA must ensure TTO certification statements include original signatures and are submitted with the periodic compliance monitoring reports when a TTOM plan is used in lieu of monitoring for TTOs.
5. The CA must ensure that all in-house testing performed for industrial compliance monitoring meets the requirements established in 40 CFR Part 136 and by the approved test methods. Part 136 establishes requirements for method modification that must be followed when modifying an approved test method. Any modification to the approved test procedures must be clearly documented in a method write-up. Any laboratory discrepancies previously identified must be addressed by the CA. This should include a TSS dry study that is representative of industrial wastewaters.
6. The CA must public notice the recently discovered Camso 2020 SNC per requirements established by 40 CFR Part 403.8(f)(2)(viii) and must maintain a record of the notice per the record-keeping requirements. Any future discovery of SNC must be public noticed within 12 months of discovery.
7. The CA must pursue appropriate enforcement actions when it is discovered that IUs have not reported all monitoring data or did not report permit limit exceedances within 24 hours of discovery.

8. Per the requirements of 40 CFR Part 403.12(g)(3) as it applies to composite sampling, flow-proportional composite sampling (with use of a properly calibrated flow meter) should be required on all industrial users that have continuous discharges or significant fluctuations in water quality. If the CA allows other types of sampling such as time-proportional composite sampling or grab sampling, the samples must be representative of the discharge, and the decision to allow the alternative sampling must be documented in the industrial user files.
9. During IU inspections, the CA must ensure that all aspects of the wastewater generation processes, chemical handling and storage, discharge monitoring practices, records, and any other applicable pretreatment standards or requirements are reviewed to verify compliance with the standards. This also includes a verification that industrial best management practices are adequately implemented (e.g., SCPs, TTOM plans, etc.). EPA has developed guidance for CA's on how to properly perform industrial sampling inspections that is entitled *Industrial User Inspection and Sampling Manual for POTWs*. This document can be used by the CA as a reference tool to help guide future IU sampling inspections.

The following are recommendations provided to enhance the CA's pretreatment program:

1. The CA should maintain all industrial monitoring data together electronically or in one section of the industrial files along with any compliance determinations that were made on the data. This will help expedite the review process during future PCAs.
2. Mass balance calculations should occasionally be performed using available sewage sludge data to better understand if existing SIUs are potentially exceeding their categorical standards in between compliance sampling events. This information can be used as a tool to perform additional monitoring activities on the metal finishing CIUs.
3. In addition to sampling metals levels for 40 CFR Part 503 metals in the sewage sludge, the CA should include other metals as part of the analyses such as chromium, silver and cyanide. These additional data points may help to provide more reliable local limits calculations and reevaluations.

David Pratt
Life Scientist
Date: March 7, 2022

ATTACHMENTS

PCA Checklist