

Clean Air Act 112(r), Risk Management Program Inspection Report

Village Creek Wastewater Treatment Plant

Birmingham, Alabama

May 18, 2022

1.0 Introduction

The U.S. Environmental Protection Agency's efforts to reduce the likelihood and severity of chemical accidents includes planning and legislative initiatives such as the National Contingency Plan, the Emergency Planning and Community Right-to-Know Act (EPCRA), and the Accidental Release Prevention requirements under Section 112(r) of the Clean Air Act (CAA), as amended in 1990. This report outlines an inspection of the Risk Management Program (RMP) as mandated by Section 112(r)(7) of the CAA.

The focus of this inspection was to assess the RMP for the chlorination and dichlorination process at the Jefferson County Commission's Village Creek Wastewater Treatment Plant (WWTP) located in Birmingham, Jefferson County, Alabama. The past three years of EPCRA Tier II forms from the facility were noted to have been submitted online and reviewed. The inspection consisted of an examination of program documentation as well as site review of the chlorination and dichlorination operations of WWTP's effluent utilizing Chlorine (Cl_2) gas and Sulfur dioxide (SO_2) gas respectively. This report will provide background information about the facility and a list of observations.

2.0 Background

The WWTP generates methane from its two (2) digesters and uses it as fuel for its two (2) boilers. The excess amount, if any, is sent to the flare and burnt off. Methane's Threshold Quantity (TQ) is 10,000 lbs. Methane is exempt/excluded from Risk Management Plan (RMP) if used as fuel. Methane is not covered by RMP if below its TQ. Based on RMP submittal, the WWTP handles two substances namely chlorine gas and sulfur dioxide gas regulated by the Risk Management Plan Rule (RMP Rule), 40 CFR Part 68, in quantities above the TQ [chlorine TQ = 2,500 lbs. and sulfur dioxide TQ = 5,000 lbs.].

The WWTP puts on line four (4) one-ton cylinders of chlorine and four (4) one-ton cylinders of sulfur dioxide. The chlorine scales and chlorine feed system including piping is kept separate from that of sulfur dioxide ensuring no cross connection. The full and empty one-ton chlorine and sulfur dioxide cylinders are stored in the same building as the chlorine gas feed system and sulfur dioxide gas feed system. The same building area also includes a charcoal media-based scrubber exhaust system that is also connected to the leak/alarm system that is monitored by staff including a shift supervisor.

The WWTP is subject to the RMP requirements of 40 CFR Part 68. The WWTP has covered processes that are subject to Program 2 requirements as they do not meet the eligibility requirements of Program 1 or Program 3. Program Level 1 does not apply because the WWTP has public receptors within distance to toxic or flammable endpoint. Program Level 3 does not apply because the federal Occupational Safety and Health Administration (OSHA) Process Safety Management (PSM) is not applicable to the WWTP as the WWTP is owned and operated by Jefferson County Commission and the State of Alabama has not been granted delegation by OSHA and the State of Alabama has not incorporated the federal OSHA

PSM standard by reference into state law or code. The background specifics are summarized in Table 1 presented below.

TABLE 1: Inspection Information Summary

Inspection Team

Inspector: Chetan Gala, EPA
Jordan Noles, EPA
Bethany Terpin, EPA

Date of Facility Visit: May 18, 2022

Facility Identification

Name: Village Creek Wastewater Treatment Plant
Street Address: 1440 Pleasant Hill Road
City: Birmingham County: Jefferson State: Alabama Zip: 35224
EPA Facility ID No: 1000 0002 8837
Latitude: 33.526048
Longitude: -086.891312

Name of corporate parent company: Jefferson County Commission

Name, title, and email of the person responsible for 40 C.F.R. Part 68 implementation:

Name: Linda Jackson
Title: Plant Supervisor
Email: jacksonli@jccal.org

Name and title of emergency contact:

Name: Linda Jackson
Title: Plant Supervisor
Day phone: (205) 791-6405
24-hour Phone: (205) 480-4673
Email: jacksonli@jccal.org

Name and titles of stationary source personnel involved in site inspection (*accompanied site tours, provided documents and explanations*):

Name	Title	Phone	Email
Linda Jackson	Plant Supervisor	(205) 791-3100	jacksonli@jccal.org
Richard Miller	Plant Manager	(205) 308-4287	millერი@jccal.org
Margaret Tanner	Deputy Director Operations	(205) 215-7445	tannerma@jccal.org
Jonathan Gardner	Laboratory Supervisor	(205) 529-2819	gardnerj@jccal.org

Note: Not a union facility

Date and Program Levels of Submitted Risk Management Plan

Date of initial submission: August 2, 1999

Date of recent submission: March 4, 2019

Process ID	Process Description	Process Chemical ID	Process Program Level	Chemical Name	Quantity (lbs)	NAICS code	Flammable / Toxic
1000094705	Disinfection/Chlorination	1000118456	2	Chlorine CAS # 7782-50-5	20,000	Process NAICS ID: 1000095968 NAICS Code: 22132	Toxic
1000094705	Disinfection/De-chlorination	1000118457	2	Sulfur dioxide (anhydrous) CAS # 7446-09-5	20,000	Process NAICS ID: 1000095968 NAICS Code: 22132	Toxic

3.0 Observations

The inspection of the facility evaluated compliance with various sections of the RMP regulations (40 CFR Part 68, Program level 2). The inspection involved discussions with the facility representatives of issues related to its chlorine and sulfur dioxide storage, handling and usage, the facility's RMP, a review of paperwork associated with the facility's most recent Risk Management Plan (RMPlan), and a walkthrough of the facility. Inspection in-brief and out-brief conferences were conducted. Observations from the RMP inspection at the facility are presented below:

1. 40 CFR § 68.65(d)(2) requires that the owner or operator must document that equipment complies with recognized and generally accepted good engineering practices.
 - The emergency shower and eye wash combination unit was on the same level/plane and in the same area where chlorine and sulfur dioxide one-ton cylinders were on scale and in operation and the empty chlorine and sulfur dioxide one-ton cylinders were being stored awaiting removal. The location of the emergency shower and eye wash unit may not be suitable or ideal location in a chlorine or sulfur dioxide leak situation or incident.
 - The emergency shower/eye wash combination unit was near the chlorine/sulfur dioxide sensor unit that was mounted on the wall to the left of the shower/eye wash unit as one faced/looked towards it. This may pose electrical hazard during testing of the emergency shower or the actual use of it during an emergency due to the potential water spray coverage area of the emergency shower.
 - The emergency shower and eye wash combination unit did not appear to be used or tested given the accumulation of dust.
 - American National Standards Institute, Inc. (ANSI)/International Safety Equipment Association (ISEA) - Z358.1-2014 (Sections 4.6.2, 5.5.2, 6.5.2, and 7.5.2, Appendix B, paragraph/item B2) require flushing lines and testing by activating weekly.

- Also, refer to Appendix B of ANSI/ISEA paragraph/item B5 which states “In situations that might warrant the placement of emergency eyewash and shower equipment close to the hazard, such as exposure to highly corrosive chemicals, the appropriate professional should be contacted for advice on the proper distances. Equipment should be located adjacent to the hazard but situated in such a manner such that exposure to the splash hazard or other hazards (e.g., exposed electrical conductors) does not occur while using the eyewash.”
2. 40 CFR § 68.50(c) requires the owner/operator to document the results of the hazard review and ensure that problems identified are resolved in a timely manner. 40 CFR § 68.50(d) in part requires such hazard review be updated at least once every five years.
- The last hazard review was conducted on February 13, 2019. The owner/operator established the risk ranking and what it considers reasonable time to resolve in a timely manner any problem identified by the hazard review given its risk rank. Four (4) problems or action items identified by the hazard review were not timely addressed/resolved. These problems/action items are illustrated in tabular format below:

Problem/Action Item	Risk Rank	Risk Rank Description Consequence/Frequency	Resolution Due Date “reasonable time to resolve in a timely manner”	Actual Resolution Date
Face/fit test	1C	Catastrophic/Occasional	05/14/2019	05/19/2021
Strobe Lamp Installation for Chlorine/Sulfur dioxide alarm system	2C	Critical/Occasional	05/14/2019	09/20/2020
Remove all ABC fire extinguishers & replace with water extinguishers	2D	Critical/Remote	05/14/2019	06/04/2020
Training all employees on emergency response/action plan	1C	Catastrophic/Occasional	05/14/2019	August 2020

3. 40 CFR § 68.58(d) requires the owner or operator to promptly determine and document an appropriate response to each of the findings of the compliance audit and document that deficiencies have been corrected.
- A compliance audit was conducted in 2020. One of the resulting action item of the said audit required developing a disinfection process flow diagram. The completion date for this action item is not reported/left blank. Thus, it is unclear whether or not the action item/deficiency has been completed/corrected.

Inspection Report,

Prepared by:

Gala, Chetan

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Chetan Gala, Inspector
U.S. EPA Region 4
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Air Enforcement Branch

Date

Peer reviewed by:

JORDAN NOLES

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