



United States Environmental Protection Agency
Region 7
Enforcement and Compliance Assurance Division

Air Branch

**Air Branch Inspection Report
Announced Partial Compliance Evaluation**

BCP Ingredients, Inc.

299 Extension Street

Verona, MO 65769

FRS# 110000444788

Inspection Date(s):

June 22-23, 2023

Christopher Appier, Inspector, ECAD, Air Branch

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and provides a clear indication of the end of this report.**

INSPECTION OVERVIEW

INSPECTION OBJECTIVE

There were two objectives of the partial compliance evaluation inspection. One objective was to determine compliance of the facility with the Clean Air Act (CAA), specifically the leak detection and repair (LDAR) requirements located in the facility's Part 70 Operating Permit (Permit Number: OP2019-025) issued on August 19, 2019. The other objective of the inspection was to verify various aspects of the issues corrected as required by the Administrative Order for Compliance (AOC) issued by the U.S. Environmental Protection Agency (EPA) on September 20, 2022. The AOC was issued to bring the facility into compliance with the CAA at section 112(r) Prevention of Accidental Releases requirements and the implementing regulations in the code of federal regulations at 40 CFR Part 68. Of particular interest was evaluating the status of chemical storage tank inspections; reviewing railcar unloading process changes; evaluating the status of emergency coordination activities; and evaluating the status of the implementation of recommendations made in the building ventilation study.

The inspection was part of the EPA Creating Cleaner Air for Communities National Enforcement Compliance Initiative.

Table 1 lists the inspection team members.

Table 1. PROJECT TEAM MEMBERS		
Team Member	Organization	Project Role
Christopher Appier	EPA, Region 7, ECAD, Air Branch	Lead Inspector
Lorenzo Sena	EPA, Region 7, ECAD, Air Branch	Inspector

FACILITY CONTACT INFORMATION

Table 2 lists the primary facility contacts.

Table 2. FACILITY CONTACT INFORMATION		
Name, Title	Phone Number	Email Address
Shawn Thomas - EHS Director	845-637-6042	stthomas@balchem.com
Gorge Garcia - Plant Manager	-	-
Dave Olson - EHS Manager	-	-
Terry Anderson - Maintenance	-	-

FACILITY OVERVIEW

The BCP Ingredients Incorporated facility in Verona, Missouri repackages ethylene oxide and uses various compounds to produce human and animal supplements. The facility has undergone many changes in ownership since it was constructed in 1961. The facility is currently owned by Balchem who purchased the facility in 2001.

A previous CAA 112(r) inspection conducted on June 7-9, 2022 (“RMP inspection”), at the facility revealed deficiencies in the facility’s risk management plan (RMP). The RMP inspection report was transmitted to the facility on July 27, 2022. On September 20, 2022, the EPA and the facility entered an AOC. As a part of the AOC, the facility was required to address a total of eight issues. The facility has completed addressing the eight issues listed in the AOC within the specified timeframe and were verified during this inspection.

According to Permit Condition 2 of the Part 70 Operating Permit (Permit Number: OP2019-025), issued to BCP Ingredients by the Missouri Department of Natural Resources on August 19 (the permit), 2019:

“The permittee shall establish a written LDAR program using EPA Method 21 to control and mitigate fugitive leaks from the ethylene oxide (EtO) system. The EtO system consists of a completely closed network of equipment and piping that safely transfers EtO from bulk storage to UN 1A1 drums that comply with 49 CFR 178.504. All potential emissions points within the system shall be monitored on at least an annual frequency with valves and pumps within the system checked at least quarterly. Should results indicate a leak, the permittee shall take necessary actions to remedy the causes of such leaks and restore the operation of the system to its original performance level.”

The permit also states that “the permittee shall record each inspection and keep these records at the site for at least five years.”

FACILITY OPERATIONS SUMMARY

The facility receives railcars containing EtO and other chemicals and unloads them to either storage tanks or directly into process operations, which includes repackaging EtO into UN 1A1 drums for resale. The EtO system is defined in the permit as the network of equipment that transfers EtO from bulk storage to these drums and is required to be monitored for leaks via an LDAR program. The facility also uses EtO, trimethylamine, hydrochloric acid, and various other compounds to produce choline chloride, choline bitartrate, and choline dihydrogen citrate. These various forms of choline are used as both human and animal supplements.

FIELD ACTIVITIES SUMMARY

I introduced myself and Mr. Sena and presented my credentials to Mr. Thomas, Mr. Garcia, and Mr. Olson. We were given a facility safety briefing by Mr. Olson. I conducted an opening conference during which I explained that the purpose of the visit was to conduct an inspection to determine compliance with the CAA specifically, to determine compliance with the conditions listed in the Inspection Objective section. I explained that after asking for some general business information, I would observe work practices, process units, emission units, control equipment, conduct measurement activities, and review associated records demonstrating compliance with the permit and AOC. I explained to Mr. Thomas that the facility could make a claim of business confidentiality and provided them with a Confidential Business Information form (Appendix A).

Site measurement activities are described in the Measurement Activities section below.

During the initial tank inspections required by the AOC, two of the ethanol tanks could not be fully inspected due to doorways being cut into the tanks to allow for an internal inspection. The tank inspection report noted that a re-inspection would be necessary after the doorways were welded back onto the tanks. I photographed the welded door sheets on the two ethanol tanks (see Appendix B, Photographs 13-17). Mr. Sena requested copies of the follow-up weld inspection reports from Mr. Thomas. The weld inspection reports (see Appendix C) were provided to EPA on July 14, 2023.

The initial tank inspection report noted that the nozzles in the tanks were not back welded. Mr. Sena asked Mr. Thomas if the nozzles had been back welded and he explained that the tanks were returned into service before the report was furnished to the facility, so the facility was unaware of the recommendation that the tank nozzles be back welded before the tanks were filled. Ethanol is not listed in 40 CFR 68.130 as an RMP chemical.

During the facility walkthrough, Mr. Sena and I noted that the area monitors were reading approximately the same concentration of ambient EtO as our personal monitors (RAE systems ToxiRae Pro equipped with ethylene oxide sensors). Mr. Sena asked Mr. Olson how often the monitors are calibrated. He replied that the monitors are calibrated by an independent company on a quarterly basis and by in-house personnel monthly.

While completing the LDAR checks in the EtO repackaging building, our personal alarms triggered. Employees operating the filling equipment suggested that the alarms were triggered because there was an employee outside the building mowing the lawn. They stated they observed elevated readings "every time they mow". Mr. Sena stood approximately 10 feet upwind of the mower and observed a near zero value. He then walked approximately 10 feet

downwind of the mower and observed a value of approximately 10 ppm. Following the inspection, Mr. Sena verified that an interferant for the type of sensor (electrochemical) in our personal monitors was carbon monoxide (CO). According to RAE Systems the sensor is approximately 2.5 times more sensitive to CO than EtO. Mr. Olson spoke to a filling station operator who stated that filling station personnel have been recording mowing activities in a notebook in the filling area. If an area monitor shows elevated readings, the facility reviews the log as part of its investigation.

During the facility walkthrough, I observed the railcar unloading operations. Mr. Garcia explained the new railcar unloading standard operating procedure and recently upgraded equipment. He explained that the area monitors for the unloading area were re-wired to alarm both locally and in the control room in the event of elevated readings.

Prior to the inspection, Mr. Sena reviewed a copy of the facility's RMP, which lists Mr. Scott Mason, the previous plant manager, as the emergency contact. Mr. Sena informed the facility that 40 C.F.R. §68.195(b) requires that if a facility's emergency contact changes, the facility is required to update its RMP within 30 days of the change. It was explained that Mr. Mason is still a Balchem employee and would still serve as the emergency contact for the facility. Mr. Sena asked the facility if he is still onsite at the Verona facility, and they explained that he is not but would still respond to emergencies at the facility. Mr. Garcia explained that he was working to add himself as the certifying official and Mr. Olson as the preparer and they had been unable to make the changes in the system. Mr. Sena suggested that they contact the CDX helpdesk to change their information and that the emergency contact be updated to an individual at the Verona facility.

Prior to the June 2022 RMP inspection, the facility had not conducted and documented annual emergency coordination activities but did so after the inspection the week of June 27, 2022. Mr. Sena asked if the facility was planning on or had conducted any coordination activities since. Mr. Olson explained that in December 2022, the facility met with the Local Emergency Planning Committee and first responders on-site. Mr. Olson also stated that during the week of June 12, 2023, the Verona Police and Fire Departments toured the facility.

Another requirement of the AOC was to conduct ventilation studies for the process buildings on-site. The ventilation studies were conducted and contained various recommendations. Mr. Sena asked the facility representatives about the status of implementing the recommendations of the ventilation studies. Mr. Thomas explained that some of the recommendations had already been implemented, some were in the process of being implemented, and some will not be implemented. Mr. Sena requested documentation that showed how, if, and when the

recommendations would be implemented. These documents were received on July 21, 2023, and claimed as CBI.

Mr. Sena asked the facility representatives how the EtO emissions from the wastewater were estimated. Mr. Thomas explained that a total of 12 samples were collected from the EtO containing waste stream. The facility wastewater is comprised of multiple streams, however, only one has the potential to contain EtO. The facility used the highest value observed in the sampling to calculate EtO emissions from the wastewater tank.

I asked Mr. Thomas for a copy of the most recent LDAR plan. He informed me that a plan previously submitted to EPA was the most recent plan.

I conducted a closing conference with Mr. Thomas, Mr. Garcia, Mr. Olson, and Mr. Anderson. I provided the facility with copies of the Confidential Business Information Form.

Observations and potential findings from the facility tour, records review, and field measurement activities are noted in the Investigation Observation and Potential Findings section below.

Measurement Activities

The inspection team conducted field measurements of volatile organic compounds, which includes EtO, during the onsite inspection. Table 4 summarizes field measurement activities.

All environmental measurement activities were performed in accordance with the EPA Region 7 quality system. I followed manufacturer and EPA processes for instrument calibration; Instrument calibration was documented in my inspection notebook (see Attachment E).

EPA and BCP staff first identified all components in EtO service. Then, of approximately 1500 components, I conducted leak testing on approximately 1200. These components included connectors, valves, pumps, pressure relief devices, and flanges. The leak testing was conducted not only on components required to be monitored by the permit, but also components that are included in the facility's LDAR plan but not required to be monitored by the permit. Only one leak was identified (see Attachment B, photographs 9-12). The leak was on a connection outside of the permit defined "EO system" that was not required to be monitored. After the leak was identified, Mr. Garcia requested that the maintenance crew tighten the connector. I then retested the connector, and no leak was detected (see Attachment B, photographs 18-21).

Table 4 summarizes field measurement activities.

Table 3. FIELD MEASUREMENT ACTIVITIES			
Location Identifier	Date(s)	Method and/or Procedure ¹ , and Equipment	Measurer Name
EO Service	June 22-23, 2023	Method: EPA Method 21: Determination of Volatile Organic Compound Leaks Region 7 Procedure: <i>Toxic Vapor Analyzer (TVA)</i> Equipment: Manufacturer: Thermo Fisher Model: TVA2020 SN: 202023016395	Christopher Appier
¹ The current version of each procedure, at the time of the investigation, was followed.			

INVESTIGATION OBSERVATIONS AND POTENTIAL FINDINGS

Ambient weather, site conditions, and activities were documented in field records. All photographs are attached as Appendix B. Mr. Sena and I made the following observations.

The LDAR plan contains components in EtO service to be tested. The plan included all components required by the permit and additional components not required by the permit. Additionally, the plan includes a schedule for testing that is more rigorous than that required in the permit. A review of the facility's recent LDAR reports shows that the LDAR program meets the requirements of the permit, including the requirement to use EPA Test Method 21.

The tank inspection reports showed that the ethanol tanks welds were tested using digital radiography, underwent a magnetic particle inspection, and a visual examination. All testing showed that the welds were in satisfactory condition.

The EtO emission estimates from the wastewater appear to be biased high and are a conservative estimate of the emissions.

Mr. Sena and I discussed all observations with facility representatives during the closeout meeting unless otherwise noted in the observation description.

These observations are not final compliance determinations. The EPA Region 7 Air Branch case review team will make the final compliance determinations based on its review of this report and other technical, regulatory, and facility information.

End of report.