CAA112(r) INSPECTION REPORT

Name: BCP Ingredients – Verona, MO	
Address: 299 Extension Street Verona, MO 65769	**Date of Inspection**: June 7-9, 2022
County: Lawrence	**Case No**: 22MO0607
Phone: (417) 498-2241	**RMP No**: 1000092524
High Risk: No	**FRS No**: 1000 0007 1281
CAA Title V: No	**Program Level**: Program 3
Mailing Address: Same as Above	
Process: NAICS: 42469 Other Chemical and Allied Products Merchant Wholesalers NAICS: 311999 All Other Miscellaneous Food Manufacturing	

SUMMARY OF OBSERVATIONS

A review of the BCP Ingredients - Verona, MO documents and facility revealed the following deficiencies:

1. **The facility failed to review and update the offsite consequence analyses at least once every five years 40 CFR 68.36(a).**

2. **The facility failed to maintain documentation of ventilation system design as a part of the process safety equipment, as required by 40 CFR 68.65(d)(1)(v).**

3. **The facility failed to maintain documentation of safety systems as a part of the process safety equipment, as required by 40 CFR 68.65(d)(1)(viii).**

4. **The facility failed to maintain documentation of the consequences of deviations as a part of the process safety equipment, as required by 40 CFR 68.65(c)(1)(v).**

5. **The facility failed to perform a PHA on process 1000114872, the EO Drum Truck Storage, as required by 40 CFR 68.67(a).**

6. **The facility failed to identify the correct technique used to conduct the PHA as required by 40 CFR 68.175(e).**

7. **The facility SOPs failed to address temporary and emergency operations as required by 40 CFR 68.69(a)(iii) and (v).**

8. **The facility SOPs failed to address emergency shutdown and startup following a turnaround, or after an emergency shutdown as required by 40 CFR 68.69(a)(iv) and (vii).**

9. **The facility failed to follow all of the steps detailed in the SOPs as required by 40 CFR 68.69(a). Which states that in addition to the development of operating procedures they must be implemented.**

10. **The facility failed to correct deficiencies in equipment that are outside acceptable limits (defined by the process safety information in § 68.65) before further use or in a safe and timely manner when necessary means are taken to assure safe operation as required by 40 CFR 68.73(e).**

11. **The facility failed to establish written procedures to maintain the ongoing integrity of process equipment as required by 40 CFR 68.73(b).**

12. **The facility failed to certify and ensure that compliance audits were completed at least every three years as per 40 CFR68.79(a).**

13. **The facility failed to determine or document an appropriate response to each of the findings of the compliance audit and document that deficiencies have been corrected as per 40 CFR68.79(d).**

14. **The facility has not conducted emergency response coordination activities at least annually as required by 40 CFR 68.93(a).**

15. **The facility did not document emergency response coordination activities as required by 40 CFR 68.93(c).**

16. **The facility failed to submit the current RMP at <u>least</u> every five years as per 40 CFR 68. 190(b)(1).**

INTRODUCTION

I, Lorenzo Sena, a Compliance Inspector with the U.S. Environmental Protection Agency (EPA), Region VII, inspected BCP Ingredients Incorporated located in Verona, Missouri, on June 7-9, 2022. During the inspection, I was accompanied by Mr. Dave Hensley, and Ms. Jodi Harper, also compliance inspectors with U.S. Environmental Protection Agency (EPA), Region VII.

We arrived at the facility unannounced at 9:00am on June 7, 2022. I asked to speak with [redacted], who was named on the facility risk management plan as the plant manager as well as the person with the responsibility of implementing the facility RMP. I was informed that [redacted] was no longer serving in this role but instead I was directed to [redacted]

[redacted], the current plant manager. BCP Ingredients Incorporated - Verona (BCP) was selected for inspection because the facility had an ethylene oxide spill on April 8, 2022.

We conducted the inspection to determine if the facility complies with Section 112(r) of the Clean Air Act (CAA), as amended in 1990. The inspection also included reporting provisions of the Emergency Planning and Community Right to Know Act (EPCRA) and the release reporting provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

EPA's regulations describing how these laws are to be implemented are found in the Code of Federal Regulations, Title 40, Part 68 (CAA), 355, 370, and 372 (EPCRA). The law and the implementing regulations 40 CFR 68, Chemical Accident Prevention Provisions (CAPP) require that the facilities must submit a complete Risk Management Plan (RMP) to the EPA for those regulated chemicals they process in amounts above the applicable threshold quantities after June 21, 1999, and to implement the program described in the RMP.

The finalized inspection report as well as the photos and facility diagram (Appendix #1) will be transmitted via e-mail to the facility owner/ operator. A copy of this inspection report, documents obtained, photographs taken during the inspection, checklists and completed forms will be maintained in the EPA facility file.

HISTORY OF BUSINESS

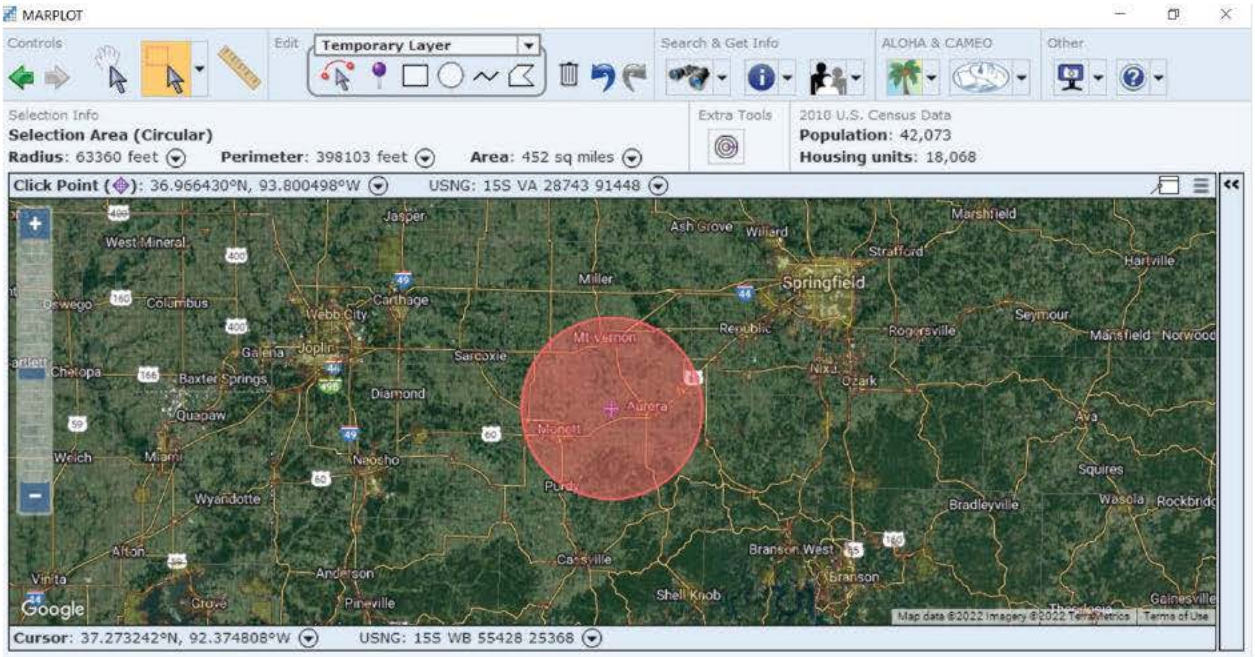
The BCP Ingredients Incorporated facility in Verona, Missouri repackages ethylene oxide, and uses ethylene oxide, trimethylamine, hydrochloric acid and various other compounds and ingredients to produce choline chloride, choline bitartrate, and choline dihydrogen citrate. These various forms of choline are used as both human and animal supplements. The facility has undergone many changes in ownership since it was constructed in 1961. The facility was purchased by Balchem in 2001. The facility has two RMP-regulated substances in three separate processes. The three processes and quantities listed in the facility RMP are shown in the table below:

Process ID	Description	Chemical	Quantity in pounds
1000114871	EO Building Drum Storage	Ethylene oxide [Oxirane]	120,000
1000114872	EO Drum Truck Storage	Ethylene oxide [Oxirane]	120,000
1000114873	Choline, Salts	Ethylene oxide [Oxirane]	2,200,000
1000114873	Choline, Salts	Trimethylamine [Methanamine, N,N-dimethyl-]	1,400,000

The threshold quantities of ethylene oxide and trimethylamine are each listed as 10,000 pounds according to 40 CFR 68.130. In addition to meeting the threshold requirements in 40 CFR 68.130, the facility has over 5,000 pounds of ethylene oxide, therefore, the facility is subject to

the OSHA PSM requirements (29 CFR 1910.119(a)(1)(i)). Since this is the case and since the worst-case release scenario distance to endpoint of an ethylene oxide release of 12 miles would reach public receptors, the facility is classified as a Program 3 facility.

The City of Verona, Missouri, is located in southwest Missouri and according to the 2010 census, Verona has a total population of approximately 619 individuals. According to MARPLOT which uses the 2010 census data, there are a total of 18,068 residences and 42,073 residents within the OCA distance of 12 miles.



PERSONS INTERVIEWED AND INDIVIDUAL RESPONSIBILITIES

[redacted] – Plant Manager
[redacted] – EHS Manager
[redacted] – Union Steward
[redacted] – EHS Coordinator
[redacted] – Corporate PSM Coordinator
[redacted] – Process Engineer
[redacted] – Production Manger Area B

During the inspection we were allowed to view an organizational chart which identifies the responsibilities of each position with regards to their involvement with the RMP program. During the inspection we requested a copy of this organizational chart as well as the name of the person who is currently filling the position but, as of July 26, 2022, I have not received it.

OPENING CONFERENCE

Mr. Hensley, Ms. Harper, and I arrived unannounced at BCP on Tuesday June 7, at 9:00am. Upon arrival at the facility, I requested audience with [redacted] who according to the facility RMP was the plant manager with responsibilities of implementing the facility RMP. We were informed that [redacted] no longer served in this role but were instead directed to [redacted] the current Plant Manager and [redacted] the EHS Manager. I explained that according to CAA Section 112(r)(6)(L), employee representatives are allowed to participate in this inspection and asked that they be informed of our presence and intentions.

I explained that I would be conducting the inspection under authority of the CAA' s Chemical Accident Prevention Provisions. I explained that we would begin by briefly discussing facility operations and I would need to conduct a walk-through of the facility and explained that this would include taking photographs. I also stated that after completing the walk-through and reviewing all applicable documents, I would conduct an exit interview to explain my findings, provide a receipt for any requested documents I received during the inspection, and answer questions. I then filled out a Notice of Inspection Form (Appendix #2) which was signed by [redacted].

I explained to [redacted] that the facility had the right to claim Confidential Business Information (CBI) and informed him that a Confidentiality Notice, which he reviewed, would be provided at the end of the inspection to make any claims. During the facility exit briefing, [redacted] identified that he did wish to claim confidential business information and chose to keep the EPA Confidentiality Notice and submit it along with the documents we requested. Following the inspection, we received instead a CBI substantiation document from the facility detailing its confidentiality claims (Appendix #3). In addition to CBI, I also explained and provided a copy of U.S. Federal Code 1001 and 1002 pertaining to false statements and documents. We briefly discussed facility operations and the covered process and then began the visual inspection. Following the facility tour, I asked to see the facility RMP documentation, including the off-site consequence analysis, process safety information, process hazard analyses, operating procedures, training records, maintenance records, compliance audits, and emergency response procedures. As I reviewed available documents, I directed any questions I had to BCP staff, and I noted my findings on the EPA Program 3 Inspection Checklist (Appendix #4).

EPCRA TIER II

According to 2020 EPCRA Tier II (Appendix #5), the facility has 14 chemicals which meet the EPCRA hazardous chemical reporting requirements. [redacted] said that of those, the quaternary ammonia compounds and methylene chloride are no longer used at the facility.

During the inspection, I inquired as to whether the facility had submitted the 2021 Tier II forms by March 31, 2022. [redacted] explained that they did not, as an extension had been granted by the State of Missouri to June 30, 2022. During the inspection, this extension was confirmed by Ms. Harper via an e-mail to Mike Harris, the Missouri Emergency Response Commission executive director.

During the inspection, I requested information from the facility with regards to how chemical inventory is determined. [redacted] explained how the facility determines the maximum inventory. A spreadsheet detailing these calculations for ethylene oxide and trimethylamine is included as Appendix #6.

Following the inspection, I verified BCP Ingredient's inclusion in the community Emergency Operation Plan. I spoke with Mr. Grant Selvey the Lawrence County Emergency Management Director on July 11, 2022 at 9:32 am. Mr. Selvey explained that the facility is an active member of the LEPC and confirmed that [redacted] (BCP EHS Coordinator) was the chairman of the LEPC. He was aware of the facility as well as the chemicals used by the facility. He mentioned that he toured the facility during the week of June 27, 2022.

ACCIDENT HISTORY/ INCIDENT INVESTIGATON

As mentioned above, on April 8, 2022, beginning at approximately 6:30am, an incident at the facility occurred which resulted in the release of approximately 1,290 pounds of ethylene oxide. A written follow-up report was prepared by the facility as required by 40 CFR 355.40, it is included as Appendix #7. According to the accident investigation, the spill occurred while an ethylene oxide railcar was being emptied into the ethylene oxide storage tanks via the north loading platform known as T9.

Stationary sources are required to begin an investigation within 48 hours of an incident. As can be seen in Appendix #7, the facility began the investigation shortly after the accident and well with in the 48-hour requirement. The investigation was concluded on April 9, 2022.

The investigation explains the reason the accident occurred, faults identified and also identified 10 short term and 8 long term recommendations which according to the facility, would prevent a reoccurrence.

During the inspection, we spoke about the April 8, 2022 spill. [redacted] explained that the leak began when the railcar was connected to the T9 loading platform around 6:30am. The leak was noticed around 1:30pm and was detected because employees noticed icing on the side of the railcar, indicating a leak in the system. The leak carried on for approximately 7 hours and was

leaking through an approximately 1/8" weep hole in the valve. [redacted] said that the leak tripped the local alarms but neither the audible alarms nor the alarms in the control room worked due to a flood damage (flood occurred in May 2021). The loading platform is equipped with a UNIPRO valve closure system which is supposed to shutoff the tank in the event a leak is detected. I inquired as to why the shutoff did not trip when the alarm was activated, he explained that they did not have the UNIPRO adapter for that particular tank car valve so, the safety valve was not connected when the tank was being unloaded. [redacted] also indicated that the previous SOP required the hoses to be capped before the unloading begins, he said that this had not been in practice for some time due to the physical hazard (projectile) of removing the caps if the hose is under pressure.

Since the spill did not result in deaths, injuries, or significant property damage on site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage, it was not an RMP reportable accident as defined in 40 CFR 68.42(a). During the inspection, I requested any information the facility used to determine and confirm that this was indeed an incident and not an accident as described in 40 CFR 68.42. A CBI document which is not attached to this report labeled as *EO Railcar Release April 8 2022* (BCP-VER-EPARMP-00000031), contains the information provided to me by the facility which they used to substantiate the claim that the spill did not reach offsite public or environmental receptors.

During the inspection, I inquired as to whether the facility has had any RMP reportable accidents since the last RMP was submitted, [redacted] explained that they did not and the most recent incident (not RMP accident) at the facility was included in the current facility RMP. This incident occurred on February 15, 2021, when the ambient temperature dropped and pipes used for the fire suppression system in the trimethylene area of the facility froze. [redacted] was unsure why this incident was reported on the RMP by the former EHS Manager as no RMP chemicals were released.

OSHA INSPECTION

The Occupational Safety and Health Administration (OSHA) conducted an inspection of the facility on April 14, 2021. The inspection was conducted as a follow-up to a complaint. The inspection as well as photos taken during the inspection are not attached to this report as they could contain privileged and/or confidential information which is not releasable to the public; per the EPA File Sharing Letter BCP, this information will be maintained in the facility file. In addition to the inspection, I requested and was provided the OSHA Abatement Document by the facility, which was determined to be a CBI document which is not attached to this report (*OSHA Abatement Document* (BCP-VER-EPARMP-0000001)). The abatement document details the findings from the OSHA inspection and includes many findings specific to OSHA requirements but in addition there were also numerous findings with regards to OSHA PSM requirements, many of which overlap with the RMP requirements listed in 40 CFR 68. The overlapping findings include:

1. Employer did not develop a written employee participation plan
2. Process Safety Information is not up to date or accurate
3. Facility did not follow RAGAGEP with regards to pipe labeling

4. Failure to adequately test and inspect process equipment (2 items)
5. Inspection and testing failed to follow RAGAGEP (4 items)
6. Process safety info was not updated when a change in the process was made
7. Employer did not update operating procedures after changes have occurred
8. Emergency action plan was deficient in 4 areas
9. Facility failed to retain compliance audits

HAZARD ASSESSMENT

During the inspection, I asked to review the facility hazard assessment and requested a copy of it. The facility hazard assessment and supporting document, are designated as a CBI document which is not attached to this report (October 22, 2004 Hazard Assessment OCA, BCP-VER-EPARMP-0000007 and October 22, 2004 Hazard Assessment October 22, 2004, BCP-VER-EPARMP-0000021). The most recent hazard assessment was prepared on October 22, 2004. The RMP shows that the facility completed one worst case scenario for toxics, one for flammables and also completed three alternative release scenarios for toxics and one alternative release for flammables.

The toxics worst-case scenario reported in the facility RMP (See Appendix #8) involved a gas release of 190,000 pounds of ethylene oxide from the largest vessel of the ethylene oxide system (which at that time was Tank T1 and was prior to removal from service). The facility RMP indicates a distance to endpoint (DTE) of 12 miles based on the information provided by RMP*Comp. The RMP states that this worst-case scenario would affect a population of 42,323 residents.

The flammables worst-case scenario reported in the facility RMP involves a vapor cloud explosion of 160,000 pounds of trimethylamine. The facility RMP indicates a distance to endpoint (DTE) of 0.4 miles based on the information provided by RMP*Comp. The RMP states that this worst-case scenario would affect a population of 236 residents.

In addition, three alternative release scenarios for toxics and one for flammables are included in the facility RMP. The facility RMP indicates that RMP comp was used to determine each of the distances to endpoints for the four scenarios.

The first toxic alternative release scenario involves a leaking vessel in the EO Building Drum Storage and has a release rate of 40 pounds of ethylene oxide per minute, which gives a distance to endpoint of 0.2 miles and lists a residential population of 85 within the distance to endpoint.

The second toxic alternative release scenario involves a leaking vessel in the EO Drum Truck Storage and has a release rate of 40 pounds of ethylene oxide per minute, which gives a distance to endpoint of 0.2 miles and lists a residential population of 85 within the distance to endpoint.

The third toxic alternative release scenario involves a gasket failure on the pressure side of an EO pump and has a release rate of 6,200 pounds of ethylene oxide per minute, which gives a

distance to endpoint of 2.4 miles and lists a residential population of 1,444 within the distance to endpoint.

The first flammable alternative release scenario involves a vapor cloud fire and has a release quantity of 27,000 pounds of trimethylamine, which gives a distance to endpoint of 0.1 miles and lists a residential population of 43 within the distance to endpoint.

In the Notice of Preliminary Findings (NOPF) (Appendix #9), I identified the following preliminary finding "40 CFR 68.20 to 39, Facility Hazard Assessment did not meet all requirements listed in 40 CFR 68 Subpart B".

According to 40 CFR 68.36 (a), The owner or operator shall review and update the offsite consequence analyses at least once every five years. As mentioned above, the most recent Hazard Analysis was dated October 22, 2004. Based on this observation, I identified the following preliminary finding:

1. **The facility failed to review and update the offsite consequence analyses at least once every five years 40 CFR 68.36(a).**

During the inspection, the facility was unable to locate the supporting documentation for the October 22, 2004 offsite consequence analysis. Since the facility could not provide any documentation at the time of the inspection, I included this as a potential violation in the closing conference and is the reason the NOPF states that the facility Hazard Assessment did not meet all of the requirements listed in 40 CFR 68 Subpart B. Following the inspection, I was provided with the supporting documentation for the worst case and alternative release scenarios for the October 22, 2004. They are claimed as CBI and are therefore not included in this report (October 22, 2004 Hazard Assessment OCA (BCP-VER-EPARMP-0000007) and October 22, 2004 Hazard Assessment October 22, 2004 (BCP-VER-EPARMP-0000021)).

PROCESS SAFETY INFORMATION (PSI)

I examined the facility's process safety information and obtained a copy of the facility's Safety Data Sheet (SDS) for ethylene oxide and trimethylamine (Appendix #10), in addition to that, I asked for documentation related to design codes, standards employed, written documentation related to materials of construction, piping and instrumentation diagrams, electrical classification, relief system design, ventilation system design, and safety systems. The facility was able to locate some documentation with regards to Process Safety Information but did not have all the required information for each of the three processes.

During the inspection I asked to see ventilation system desi gns for each of the processes. The facility had ventilation system designs for building V26 where [redacted]. I asked to see ventilation design documents for the other buildings and [redacted] explained that some of the buildings were built in 1961 and the ventilation design for the old buildings may exist but it could not be found during the inspection.

During the facility walk through portion of the inspection, we entered building V10 which houses the choline bitartrate batch reactor. Ms. Harper, Mr. Hensley and myself each had RAE Systems ToxiRAE Pros equipped with ethylene oxide sensors. Prior to the inspection, I set each of the ToxiRAEs Pros to alarm at 1.5 ppm (OSHA STEL is 5ppm for ethylene oxide). Approximately 30 seconds after we entered into the building, each of our monitors alarmed and displayed readings of 2.4 ppm, 1.9 ppm and 2.2 ppm. The building was equipped with a Draeger GL2001 continuous ethylene oxide monitor and it was reading 0.0 ppm at that time (See Appendix #1, Photo #22). The OSHA TWA for ethylene oxide is listed as 1ppm with a 15 minute excursion concentration of 5ppm. Following the inspection, the facility determined that the Draeger ethylene oxide monitor in V10 was not functioning properly. In an e-mail sent to [redacted] by [redacted] (claimed as CBI so not included in this report (BCP-VER-EPARMP-0000663)), [redacted] explains what was done to determine if the monitor was functioning and which parts were replaced after it was determined to be non-functional. I inquired as to how often the monitor was verified/calibrated. According to the facility, these monitors are verified quarterly.

According to 40 CFR 68.65(d)(1)(v) the facility must compile information pertaining to the equipment in the process which includes ventilation system designs for each process. The information pertaining to the equipment in the process (such as the ventilation system design) is an important part of the PHA. Based on this observation, I identified the following preliminary finding:

2. **The facility failed to maintain documentation of ventilation system design as a part of the process safety equipment, as required by 40 CFR 68.65(d)(1)(v).**

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.65 (d)(1)(viii) facility PSI did not include safety systems".

According to 40 CFR 68.65(d)(1)(viii), the facility is required to maintain the following information: Information pertaining to the equipment in the process. Information pertaining to the equipment in the process shall include: Safety systems (e.g. interlocks, detection or suppression systems).

The facility process safety information did not include safety systems, based on this observation, I identified the following preliminary finding:

3. **The facility failed to maintain documentation of safety systems as a part of the process safety equipment, as required by 40 CFR 68.65(d)(1)(viii).**

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.65 (c)(1)(iv) facility did not evaluate consequences of deviation on PSI", In the NOPV I cited the section incorrectly as 40 CFR 68.65 (c)(1)(iv) and it instead should have read 40 CFR 68.65 (c)(1)(v), the section pertaining to the evaluation of the consequences of deviation.

According to 40 CFR 68.65 (c)(1)(v), the facility is required to maintain the following information: Information pertaining to the technology of the process. Information concerning the technology of the process shall include at least the following: An evaluation of the consequences of deviations.

The facility process safety information did not include an evaluation of the consequences of deviations, based on this observation, I identified the following preliminary finding:

4. **The facility failed to maintain documentation of the consequences of deviations as a part of the process safety equipment, as required by 40 CFR 68.65(c)(1)(v).**

Following the inspection, the facility provided me with a response to the NOPF from the inspection (see Appendix #11). In the response, the facility states "BCP has provided several PSI document(s) pursuant to EPA's request. BCP plans to update its PSI and safety systems documents as soon as possible based on the results of the internal RMP audit".

PROCESS HAZARD ANALYSIS (PHA)

During the inspection, I requested a copy of the facility Process Hazard Analysis (PHA) for each of the processes. According to the facility RMP, three PHAs were conducted, one on each process.

The first one is listed as the PHA for process 1000114871, the EO Building Drum Storage (the ethylene oxide repackaging process in building V25). The facility RMP lists the date the PHA was completed as May 22, 2019. According to the facility RMP, the technique used to complete the PHA was the "What if" technique. According to the PHA for the ethylene oxide repackaging process which was claimed as CBI and is not attached to this report *Ethylene oxide (EO) Packaging (V25) Process Hazard Analysis (PHA) Redone May 2019* (BCP-VER-EPARMP-0000263), the HAZOP technique was used.

The second one is listed as the PHA for process 1000114873, the Choline, Salts (the process to make choline chloride products). The facility RMP lists the date the PHA was completed as September 20, 2019. According to the facility RMP, the technique used to complete the PHA was the "What if" technique. During the inspection, we viewed this document and requested a copy of this document but as of July 26, 2022, it has not been received. During the inspection, I noted that the facility used the HAZOP technique to conduct this PHA.

40 CFR 68.67(a) states that the owner or operator shall perform an initial process hazard analysis (hazard evaluation) on processes covered by this part. The process hazard analysis shall be appropriate to the complexity of the process and shall identify, evaluate, and control the hazards involved in the process. The owner or operator shall determine and document the priority order for conducting process hazard analyses based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process. The process hazard analysis shall be conducted as soon as possible, but not later than June 21, 1999. Process hazards analyses completed to comply with 29

CFR 1910.119(e) are acceptable as initial process hazards analyses. These process hazard analyses shall be updated and revalidated, based on their completion date.

The facility RMP lists process 1000114872, the EO Drum Truck Storage. This process involves the two truck parking spaces where, filled 400 pound containers of ethylene oxide are stored until shipping and has a capacity of 120,000 pounds of ethylene oxide. The facility RMP lists the date the PHA was completed as May 22, 2019 but was unable to provide any documentation with regards to the PHA performed on this process.

According to Section 9 of the Compliance Audit from September 2020, the 2014 compliance audit noted a deficiency in that a PHA must be completed for each covered process. Based on this observation, I identified the following preliminary finding:

5. **The facility failed to perform a PHA on process 1000114872, the EO Drum Truck Storage, as required by 40 CFR 68.67(a).**

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.175 (e) Facility did not identify the correct PHA technique".

40 CFR 68.175(e) states that for each Program 3 process, the owner or operator shall provide the information indicated in paragraphs (b) through (p) of this section. If the same information applies to more than one covered process, the owner or operator may provide the information only once, but shall indicate to which processes the information applies. Paragraph e. of the same section states "The date of completion of the most recent PHA or update and the technique used".

The facility PHAs did not list the correct technique used to prepare the PHA, based on this observation, I identified the following preliminary finding:

6. **The facility failed to identify the correct technique used to conduct the PHA as required by 40 CFR 68.175(e).**

Following the inspection, the facility provided me with a response to the NOPF from the inspection (see Appendix #11). In the response, the facility states "BCP conducted its PHA using the more comprehensive HAZOP technique. However, BCP inadvertently documented that the PHA was conducted using a what-if checklist. This was
incorrect, but was a minor typographical error".

STANDARD OPERATING PROCEDURES (SOPs)

I asked to review the facility's operating procedures for the covered process. [redacted] showed me that SOPs were stored electronically and are accessible to employees who operate the various systems. I noted that the SOPs addressed various operating phases, including initial startup and normal operations. The SOPs did not however address temporary operations, emergency shutdown (repackaging SOP), emergency operations, and startup following a shutdown

(repackaging SOP). I also noted that the SOPs referenced operating limits, safety and health considerations, and safety systems. I requested copies of the SOPs regarding ethylene oxide unloading (where the April 8, 2022 accident occurred), filling area / operations D8000 and the checklists associated with the SOPs. These SOPs were provided but were claimed as CBI and therefore not included in this report (*Ethylene Oxide Railcar Unloading B-4000* (BCP-VER-EPARMP-0000377), *Ethylene Oxide Repackaging Startup D-8000* (BCP-VER-EPARMP-0000413), *Ethylene Oxide Repackaging Startup Daily Log Sheet B-8000* (BCP-VER-EPARMP-0000417) and *Ethylene Oxide Railcar Unloading Checklist B-4000* (BCP-VER-EPARMP-0000418)).

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.69 Facility SOPs do not address all of the required elements".

According to 40 CFR 68.69(a), The owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements.

"(1) Steps for each operating phase:

(i) Initial startup;

(ii) Normal operations;

(iii) Temporary operations;

(iv) Emergency shutdown including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner.

(v) Emergency operations;

(vi) Normal shutdown; and,

(vii) Startup following a turnaround, or after an emergency shutdown."

The SOPs failed to address temporary and emergency operations. Based on this observation, I identified the following preliminary finding:

7. **The facility SOPs failed to address temporary and emergency operations as required by 40 CFR 68.69(a)(iii) and (v).**

In addition to the findings listed above, the SOP for the repackaging process is much more general and does not address the operating phases mentioned above nor does it address the emergency shutdown and startup following a turnaround, or after an emergency shutdown. Based on this observation, I identified the following preliminary finding:

8. **The facility SOPs failed to address emergency shutdown and startup following a turnaround, or after an emergency shutdown as required by 40 CFR 68.69(a)(iv) and (vii).**

Following the inspection, the facility provided me with a response to the NOPF from the inspection (See Appendix #11). In the response, the facility states "The Company is retaining a third-party consultant to assist in quickly updating its Operating Procedures to be more comprehensive. BCP will update the SOPs and make any other necessary changes in the process of working with its RMP consultant to update the RMP, as described above".

During the inspection, I requested a copy of the facility SOP detailing the procedures used during railcar unloading to compare the procedures with the actions of the facility on the day of the April 8, 2022 spill. According to the Ethylene Oxide Railcar Unloading SOP# B-4000 the SOP was updated following the accident to include adding valve numbers to section 7, the addition of a hookup and unloading verification checklist, training log, technician personal operation log and added two steps to confirm unloading valve positions at the completion of the unloading process. The SOP was also updated to include the direct feed from railcar to V25 as well as update valve numbers for the T9 loadout.

According to the SOP, Valve lineup and connections should be verified by another qualified employee and, should be present during the hook-up until after pumping begins and no problems are observed.

According to the BCP Ingredients Written Follow-Up Report – April 8, 2022 - Ethylene Oxide Release (See Appendix #7), only one employee was performing the unloading procedure and a second employee was not present to verify valve lineup and connections and there was not a second employee present during the actual hook-up operation until after pumping has begun and it has been determined that there are no problems.

According to the SOP, Unloading must be monitored at all times either in person or by camera.

According to the BCP Ingredients Written Follow-Up Report – April 8, 2022 - Ethylene Oxide Release, the facility has one camera for the two unloading platforms but at the time of the release, the camera was focused on the unloading platform which was not in use and was not monitored on-site.

According to the SOP, a UNIPRO valve actuator must be attached to the liquid valve and the vapor valve.

During the Inspection, I asked [redacted] for more information with regards to the April 8, 2022 spill. [redacted] explained that the loading platform is equipped with a UNIPRO valve closure system which is supposed to shutoff the tank in the event a leak is detected. I inquired as to why the shutoff did not trip when the alarm was activated, he explained that they did not have the UNIPRO adapter for that particular tank car valve so, the safety valve was not connected when the tank was unloaded.

According to 40 CFR 68.69(a), The owner or operator shall develop and **implement** written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements.

As can be seen in the section above, SOPs were developed for the railcar unloading process but portions of this SOP were not followed. Based on this observation, I identified the following preliminary finding:

9. **The facility failed to follow all of the steps detailed in the SOPs as required by 40 CFR 68.69(a). Which states that in addition to the development of operating procedures they must be implemented.**

TRAINING

I asked how the facility trains employees to operate the covered processes. [redacted] told me that new operators are given general training on the process and are also trained on specific procedures of the system via on-the- job training and said that they also receive training using Convergence and online training resource. In addition to the training, operators are tested to verify their knowledge of the training materials. He also mentioned that a new operator must shadow an experienced operator for 90 days to complete the training. In addition to the initial training, operators receive refresher training annually and must pass a test in order to demonstrate their knowledge. During the inspection I viewed copies of training rosters and exams.

MECHANICAL INTEGRITY

During the inspection, I inquired about the facility's mechanical integrity program. [redacted] explained that yearly mechanical integrity inspections are performed by Pro-Surve Technical Services. He also said that the facility uses a software system called FIX to generate work orders for routine maintenance activities.

With regard to the facility leak detection and repair program (LDAR), [redacted] explained that the facility utilizes an outside contractor for the facility LDAR program; he said the contractor performs the LDAR inspections on a quarterly basis.

I inquired as to how the facility maintains the various pressure relief valves (PRVs) throughout the facility. [redacted] explained that all PRVs are sent out annually to be re-certified and explained that in the last 3 weeks, 7 of the PRVs in the repackaging process had been replaced/ recertified to address a finding from the most recent OSHA inspection.

I asked how the facility determines that the pressure vessels in the facility are fit for service, [redacted] said that the facility conducts ultrasonic and guided wave ultrasonic thickness testing and explained that the reason the facility stopped using Tank T1 (located in the ethylene oxide

unloading area) is that in December 2021, one of the areas of the tank which is in contact with the tank saddle showed thinning due to corrosion. He explained that this is the reason the tank was removed from service.

According to 40 CFR68.73(e), equipment deficiencies. The owner or operator shall correct deficiencies in equipment that are outside acceptable limits (defined by the process safety information in § 68.65) before further use or in a safe and timely manner when necessary means are taken to assure safe operation.

[redacted] explained that facility personnel test alarms and interlocks on a quarterly basis and said that the alarms and interlocks are tested by an outside firm on an annual basis. As mentioned in the Accident History/ incident Investigation section above, the audible alarms in the unloading area were damaged by a flood in May 2021. Based on this observation, I identified the following preliminary finding:

10. **The facility failed to correct deficiencies in equipment that are outside acceptable limits (defined by the process safety information in § 68.65) before further use or in a safe and timely manner when necessary means are taken to assure safe operation as required by 40 CFR 68.73(e).**

According to 40 CFR 68.73(b), Written procedures. The owner or operator shall establish and implement written procedures to maintain the on-going integrity of process equipment.

During the inspection I requested a copy of the written mechanical integrity program (which should be included in the facility Process Safety Management (PSM) manual). As of July 26, 2022, I have not received a copy of the facility PSM manual and could not verify the existence of a written mechanical integrity plan. Based on this observation, I identified the following preliminary finding:

11. **The facility failed to establish written procedures to maintain the ongoing integrity of process equipment as required by 40 CFR 68.73(b).**

MANAGEMENT OF CHANGE (MOC)

I inquired as to whether the facility had written procedures to manage changes. During the inspection, we were shown a copy of the facility SOP detailing the procedures.

Since the facility recently changed the process used to unload tank cars due to the removal from service of ethylene oxide tank T1. I inquired as to how the facility addressed the management of change procedures required by 40 CFR 68.75. [redacted] showed us a copy of the MOC document for the removal of service of tank T1, the document appeared to address the requirements listed in 40 CFR 68.75

During the inspection I requested a copy of the facility Process Safety Management (PSM) manual which includes a part detailing the written Management of Change program. As of July 26, 2022, I have not received a copy of the facility PSM manual.

PRE-STARTUP SAFETY REVIEW (PSSR)

During the inspection, I inquired as to the procedures used to conduct a pre-startup safety review (PSSR). Since the facility recently took Tank T1 out of service. I asked to see the PSSR for that operation. The PSSR for the removal from service appeared to have sufficiently addressed the requirements listed in 40 CFR 68.77(b).

During the inspection, I requested a copy of the facility PSM manual which included a section which addressed PSSR, as of July 26, 2022, I have not received a copy of it.

COMPLIANCE AUDIT

I asked to see the facility's two most recent compliance audit reports regarding the covered processes. [redacted] provided me with two compliance audits one, dated September 2020 and the other dated 2016, both of these compliance audits were designated as CBI and are therefore not included in this report (*Process Safety Manual (PSM)/ Risk Management Plan (RMP) Three Year Compliance Audit September 2020* (BCP-VER-EPARMP-0000451) and *Verona EHS Audit 2016* (BCP-VER-EPARMP-0000480)). Neither of these compliance audits contained a signed certification page and a total of approximately 4 years separate the completion dates of the two compliance audits.

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.79(a), Facility did not certify compliance audits".

According to 40 CFR 68.79(a), the owner or operator shall certify that they have evaluated compliance with the provisions of this subpart at least every three years to verify that procedures and practices developed under this subpart are adequate and are being followed. As mentioned above, the compliance audits which were performed, did not contain a certification of compliance nor were they completed every three years. Based on this observation, I identified the following preliminary finding:

12. **The facility failed to certify and ensure that compliance audits were completed at least every three years as per 40 CFR68.79(a).**

Following the inspection, the facility provided me with a response to the NOPF from the inspection (see Appendix #11), in the response was a certification statement for the September 2020 compliance audit. It was certified on June 23, 2022.

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.79(d), Facility did not document or determine appropriate response or document that deficiencies were corrected".

According to 40 CFR 68.79 (d), The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected. I asked for documentation to follow several compliance audit findings through the recommendation steps and finally how and when the concerns were resolved. The facility was unable to provide me with such documentation. Based on this observation, I identified the following preliminary finding:

13. **The facility failed to determine or document an appropriate response to each of the findings of the compliance audit and document that deficiencies have been corrected as per 40 CFR68.79(d).**

Following the inspection, the facility provided me with a response to the NOPF from the inspection (see Appendix #11). In the response, the facility states "The Company has added the 2020 PSM/RMP Compliance Audit findings and corrective action into Industry Safe, its internal tracking system. Industry Safe will also be populated with all 2022 findings and BCP will develop a resolution for each audit finding. BCP will supplement its document production with a confidential document supporting this step marked as BCP-VER-EPARMP-0000664. BCP is also formalizing corporate compliance audit standards and procedures that document that appropriate corrective actions will be completed and documented, including developing action plans, assigning responsibilities to specific individuals, and establishing target dates for completion."

INCIDENT INVESTIGATION

As mentioned in the Accident History section of this report, the facility conducted an incident investigation for the April 8, 2022 ethylene oxide spill. As mentioned above, the written follow up report for the April 8, 2022 accident is included as Appendix #7. I reviewed the incident report and noted that the investigation had started within 48 hours of the incident, the report included the date of the investigation, the date the investigation began, a description of the incident, factors that contributed to the incident, and recommendations resulting from the incident as required in 40 CFR 68.81(a).

According to the accident investigation, the spill occurred while an ethylene oxide railcar was being emptied into the ethylene oxide storage tanks via the north loading platform known as T9.

As mentioned in the accident history section of this report, the spill did not result in deaths, injuries, or significant property damage on site, or known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage, it was not an RMP reportable accident as defined in 40 CFR 68.42(a).

EMPLOYEE PARTICIPATION

Since this inspection was unannounced, I requested audience with the current plant manager ([redacted]). During the opening conference, I asked if the facility had a labor union, and requested that a facility employee representative be informed of our presence and extended an invitation to take part in the inspection. [redacted] contacted [redacted] who attended the inspection. I asked if the facility had a written program regarding employee participation which met the requirements detailed in 40 CFR 68.83. [redacted] showed us a copy of the facility PSM manual which had a written employee participation plan. During the inspection, we requested a copy of the facility PSM manual but as of July 26, 2022, we have not received it.

I noted that the teams who developed the PHAs and conducted the incident investigations included operators as well as management.

HOT WORK PERMIT

During the inspection I asked for copies of the most recent hot work permit that the facility. [redacted] found the most recent hot work permit and I reviewed it during the inspection, it was provided to me following the inspection but is designated as CBI so it is not included in this report (*BCP Ingredients Safe Work Permit* (BCP-VER-EPARMP-0000431)). I reviewed the form, which appeared to address the fire prevention and protection requirements of 29 CFR 1910.0252(a). In addition to a hot work permit, I was provided with the SOP for Hot Work (SOP S-1400), it was also deemed CBI and is not included in this report (*Balchem Corporation-Verona (BCP Ingredients Inc.) Hot Work Permit SOP S-1400* (BCP-VER-EPARMP-0000424)).

CONTRACTORS

I asked how the facility evaluates information regarding contractor safety performance. [redacted] explained that the facility uses ISNetworld lists, contractor job safety (OSHA 300 logs), and insurance information from prospective contractors. [redacted] added that before a contractor begins work at the facility, that contractor is made aware of the facility emergency procedures and is made aware of the general hazards of working in and around the facility and are provided with a job-specific orientation to ensure that the contractor is aware of other potential hazards which exist in the area.

EMERGENCY RESPONSE

During the inspection, [redacted] explained that the facility is a non- responding facility. Prior to the inspection, I downloaded a copy of the facility RMP from the EPA Central Data Exchange (CDX) (See Appendix #8). The RMP listed [redacted] as the facility emergency contact. I explained to [redacted] that According to 40 CFR 68.195(b), the facility has 30 days to submit a correction to reflect the change in emergency contact. [redacted], explained that [redacted], no longer serves as the plant manager but is still a valid emergency contact for the facility.

I asked about written procedures related to emergency response, [redacted] showed us a copy of the facility Emergency Action Plan. The Emergency Action Plan relies on the local emergency responders, the Aurora Fire Department and the Verona Volunteer fire department. to respond to emergencies at the facility.

During the inspection, I asked if the facility had conducted annual coordination activities with the local emergency responders. [redacted] and [redacted] explained that they assumed the facility had been visited by the emergency responders but were not able to determine how long ago that occurred nor did they have any documentation of Emergency Response Coordination Activities conducted by the facility in the past.

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.93(a), Facility did not conduct annual coordination (activities)".

Since the facility had not emergency response coordination activities in the past year, I identified the following preliminary finding:

14. The facility has not conducted emergency response coordination activities at least annually as required by 40 CFR 68.93(a).

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.93(c), Facility did not document past coordination activities".

Since the facility did not have any documentation of past emergency response coordination activities, I identified the following preliminary finding:

15. The facility did not document emergency response coordination activities as required by 40 CFR 68.93(c).

In the facility response to the NOPV(Appendix #11), [redacted] explained that BCP provided the LEPC with information about the regulated substances present at the facility over time. He also states that BCP's EHS Coordinator is the chair of the Lawrence County LEPC and mentioned that in that capacity, the EHS Coordinator provided information about the site to the LEPC. Documentation of specific coordination activities was not located during the inspection.

Since the inspection, the company has taken several steps to improve annual coordination with the LEPC and develop templates for necessary documentation. [redacted], the Environmental Health and Safety Manager, is the owner of BCP's emergency response coordination. BCP is providing information regarding the regulated substances present at the facility, their quantities, risks of the covered processes to the LEPC and other local emergency responders and will document their responses.

BCP has also contacted the LEPC and the local fire department to invite both to take an initial tour of the facility and has updated its Emergency Action Plan (EAP) and emergency contacts to the site environmental health and safety personnel. The updated plans will be provided to the

LEPC and local fire department during the visit scheduled for Thursday, June 30. BCP Is hiring a third party consultant to assist with future ERP updates, coordinate drills, including planning and review exercises with the LEPC and fire department, and will ensure future coordination is completed and documented".

As mentioned above, in the EPCRA Tier II section of this report, I verified BCP Ingredient's inclusion in the community Emergency Operation Plan. I spoke with Mr. Grant Selvey the Lawrence County Emergency Management Director on July 11, 2022 at 9:32 am. Mr. Selvey explained that the facility is an active member of the LEPC and confirmed that [redacted] (BCP EHS Coordinator) was the chairman of the LEPC. He was aware of the facility as well as the chemicals used by the facility. He mentioned that he toured the facility during the week of June 27, 2022.

MANAGEMENT SYSTEM

I asked if the facility had a developed a management system to oversee implementation of the facility's RMP program. During the inspection we were allowed to view an organizational chart which identifies the responsibilities of each position with regards to their involvement with the RMP program. I requested a copy of this document but as of July 26, 2022, I have not received it.

RISK MANAGEMENT PLAN

Prior to the on-site inspection, I reviewed the facility's RMP submission, dated February 25, 2021 as well as the previous RMP submission dated January 25, 2016, (Appendix #8 and #12). I noted that the previous RMP had a due date for resubmission of January 25, 2021 but the current RMP was submitted on February 25, 2021.

In the NOPF (Appendix #9), I identified the following preliminary finding "40 CFR 68.190(b)(1), Facility submitted RMP Feb 25, 2021 RMP due date Jan 25, 2021".

According to 40 CFR 68. 190(b)(1), The owner or operator of a stationary source shall revise and update the RMP submitted under § 68.150 as follows:

(1) At least once every five years from the date of its initial submission or most recent update required by paragraphs (b)(2) through (b)(7) of this section, whichever is later. For purposes of determining the date of initial submissions, RMPs submitted before June 21, 1999 are considered to have been submitted on that date.

Since the facility submitted the current RMP 28 days late, I identified the following preliminary finding:

16. **The facility failed to submit the current RMP at least every five years as per 40 CFR 68. 190(b)(1).**

As mentioned above in the PHA section, the facility RMP incorrectly stated that the "What if" method was the method used to complete the facility PHAs.

The facility RMP Section 7 Compliance Audits, shows that compliance audits were performed on December 10, 2020 for the 1000114871 EO Building Drum Storage, December 10, 2020 for the 1000114872 EO Drum Truck Storage and February 3, 2021 for the 1000114873 Choline, Salts. As can be seen in the Compliance Audit section of this report, the most recent compliance audit was performed on September 2020.

The RMP submission included information about an incident which occurred on February 15, 2021. As mentioned above, [redacted] explained that this should not have been an RMP reportable accident nor should it have been included in the RMP. He explained that the incident was due to sub-zero temperatures which caused the fire suppression lines to freeze and rupture.

PHOTOGRAPHS

During the site walk-through, Ms. Harper took a total of 22 digital photographs and appear in a photographic log included as Appendix #1.

CLOSING CONFERENCE

At the end of the inspection, I reviewed my observations and the preliminary findings with the facility personnel listed in the "Persons Interviewed and Individual Responsibilities" section above. I explained that additional findings could be identified via post-inspection review of the documents obtained. During the facility exit briefing, [redacted] identified that he did wish to claim confidential business information and chose to keep the EPA Confidentiality Notice and submit it along with the documents we requested. Following the inspection, we received instead a CBI substantiation document from the facility detailing its confidentiality claims (Appendix #3).

Mr. Hensley, Ms. Harper and I departed the facility at 2:45 p.m. on June 9, 2022.

This report concludes my inspection activities regarding the BCP Ingredients facility located in Verona, Missouri.

LORENZO SENA
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Date: 2022 07 26 13:49 35 -05'00'

Lorenzo Sena
Compliance Inspector

DAVE HENSLEY
Digitally signed by DAVE HENSLEY
Date: 2022.07.26 15:46:49 -05'00'

Dave Hensley
Chemical Accident Prevention Section Chief

APPENDICES

1. Inspection Photos and Facility Diagrams
2. EPA Region VII Notice of Inspection
3. BCP CBI Substantiation Document
4. EPA Program 3 Inspection Checklist
5. BCP Ingredients Inc. 2020 EPCRA Tier II
6. EPA Generated Excel Spreadsheet Detailing Chemical Inventory
7. BCP Ingredients Written Follow-up Report for April 8, 2022 Accident
8. BCP Ingredients 2021 RMP Report – 1000092524
9. EPA Region VII Notice of Preliminary Findings
10. Safety Data Sheets - Ethylene Oxide and Trimethylamine
11. BCP Response to NOPV
12. BCP Ingredients 2016 RMP Report – 1000016877