

CAA 112(r) INSPECTION REPORT

Name: Aurora Cooperative – Harvard	
Address: S. York Avenue and Nebraska Highway 18A Harvard, NE 68944	Date of Inspection: January 31, 2023
County: Clay County	Case No: 23NE0131
Phone: 402-772-3151	RMP No: 1000 0000 5594
High Risk: No	FRS No: 1100 0057 0212
CAA Title V: No	Program Level: Program 2
Mailing Address: 2225 Q Street, Aurora, Nebraska, 68818	
Process: Agronomy business, including retail sale of anhydrous ammonia	

SUMMARY OF OBSERVATIONS

A review of documents pertaining to the Aurora Cooperative – Harvard (Aurora Coop) on the northeast corner of the intersection of S. York Avenue and Nebraska Highway 18A, Harvard, Nebraska (facility), and an inspection at that facility—both with focus on Chemical Accident Prevention Provisions (Title 40 *Code of Federal Regulations* [CFR] Part 68)—revealed the following deficiencies:

1. **The facility failed to update off-site consequence analyses (OCA) for the new location of anhydrous ammonia tanks, as required by 40 CFR 68.30(a) and 68.33(a).**
2. **The facility failed to update OCAs within 6 months of a change in the process, as required by 40 CFR 68.36(b).**
3. **The facility failed to update its hazard review at least once every 5 years, as required by 40 CFR 68.50(d).**
4. **The facility failed to update standard operating procedures (SOP) after major process changes, as required by 40 CFR 68.52(c).**
5. **The facility failed to perform a compliance audit at least once every 3 years, as required by 40 CFR 68.58(a).**
6. **The facility failed to update the risk management plan (RMP) with the new tank location, as required by 40 CFR 68.190(b).**

INTRODUCTION

I, Heather Wood, Tetra Tech, Inc. (Tetra Tech), as a representative of U.S. Environmental Protection Agency (EPA) Region 7, inspected the Aurora Coop facility in Harvard, Clay County, Nebraska, on January 31, 2023. On January 27, 2023, I contacted Mr. Reed Stone by telephone to notify him of an inspection planned for the week of January 30. I then spoke with him by telephone and confirmed the date and time by email with Mr. Stone and Mr. Shane Kluck.

The intent of the inspection was to determine if the facility complies with Section 112(r) of the Clean Air Act (CAA), as amended in 1990. EPA's regulations describing implementation of this

law are included in 40 CFR 68 (CAA). All attachments cited in this inspection report (Attachments 1 through 10) are also in a folder on the accompanying CD. Folder numbers on the CD correspond to attachment numbers. As an example, Attachment #2 is in Folder #2. The CD contains a copy of this inspection report, photographs taken during the inspection, emails between the facility and the compliance inspector, checklists, and completed forms.

HISTORY OF BUSINESS

The facility and its covered process are at northeast corner of the intersection of S. York Avenue and Nebraska 18A. The Aurora Coop facility supplies anhydrous ammonia as a retailer to farmers for use as fertilizer. At this location, the facility has two anhydrous ammonia bulk storage tanks (one 26,000-gallon and one 30,000-gallon), a loadout station for filling nurse tanks, and nurse tanks. Mr. Stone said that Harvard cooperative had been in operation for approximately 70 years, and it was purchased by Aurora Cooperative in 1997 or 1998.

The following summarizes reported/observed amounts of anhydrous ammonia at the facility:

	Quantity (pounds)
	Anhydrous Ammonia
Quantity at the Time of Inspection (bulk storage tanks only)	~236,900 ^(a)
Quantity listed in 2019 RMP Submission	300,000 ^(b)
Quantity in Maximum Inventory Documentation (bulk storage tanks only)	245,140 ^(c)

Notes:

- (a) On January 31, 2023, I observed the volume gauges of the two storage tanks. The 26,000-gallon tank was approximately 80% full (20,800 gallons) and the 30,000-gallon tank was approximately 84% full (25,200 gallons). The facility uses a conversion factor of 5.15 pounds per gallon.
- (b) See facility's 2021 RMP Submission (Attachment 2). This quantity assumes that all nurse tanks are also full.
- (c) See facility's maximum inventory calculations for documentation of safety information (Attachment 3).

PERSONS INTERVIEWED AND INDIVIDUAL RESPONSIBILITIES

I interviewed the following persons as part of the inspection process:

Reed Stone Location Manager, Aurora Coop
 Shane Kluck Vice President, Safety and Risk Management, Aurora Coop
 Jim Holliday Safety and Compliance Manager, Aurora Coop
 Don Engel Director of Operations, Aurora Coop
 Jay Oswald Director of Agronomy Operations, Aurora Coop

OPENING CONFERENCE

I arrived at the Aurora Coop office at 108 N. Adams Avenue on January 31, 2023, at approximately 9:30 a.m. I was escorted to a conference room. I explained that I was conducting the inspection under authority of the CAA's Chemical Accident Prevention Provisions, and that I would have to conduct a walk-through of the covered process, 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 document copies, and answer questions. I showed the Aurora team (Mr. Stone, Mr. Kluck, Mr. Holliday, Mr. Engel, and Mr. Oswald) my inspector credentials from EPA Region 7. I then filled out a Notice of Inspection Form (Attachment 1), and I explained that my inspection was for enforcement purposes and that enforcement actions could result from the inspection. Mr. Kluck signed the Notice of Inspection Form.

After the introduction, Mr. Stone and Mr. Kluck described operations at the facility, especially as these pertained to management of anhydrous ammonia. Aurora Coop sells anhydrous ammonia to farmers in the fall and spring. The administrative offices for Aurora Coop are at 108 N. Adams Avenue in Harvard, approximately 0.4 mile northeast of the anhydrous ammonia tanks. Residences, a baseball field, and a railroad track are between the administrative offices and the tanks. According to Mr. Stone and Mr. Kluck, the anhydrous ammonia tanks were at the 108 N. Adams Avenue location until approximately 2.5 years ago. Review of historical aerial photographs available on Google Earth showed that the tanks had been moved between August 2020 and March 2021. The current RMP at the time of the inspection still identified 108 N. Adams as the location of the tanks. According to Mr. Kluck, nothing about the process changed in 2020-2021 other than location of the tanks.

After an overview of facility operations, we drove to the location of the covered process, and I conducted a walk-through of the facility accompanied by the Aurora team. During the walk-through, I observed the two anhydrous ammonia storage tanks, a loading rack for nurse tanks, and nurse tanks. I noted that the volume gauges indicated that the 26,000-gallon was approximately 80% full (20,800 gallons) and the 30,000-gallon tank was approximately 84% full (25,200 gallons). I saw staged nurse tanks south and east of the storage tanks. Photographs I took during the walk-through are in the photographic log in Attachment 4 and in Folder 4 of the CD.

We returned to the office, and I asked to see the facility RMP documentation, including the off-site consequence analysis, safety information, hazard reviews, operating procedures, training records, maintenance records, and compliance audits. Mr. Stone presented documentation to me, and I directed questions to both him and Mr. Kluck. I noted my findings on the RMP Program Level 2 Process Checklist and the Supplemental Checklist for Ammonia Fertilizer Sector Inspections (Attachment 1).

HAZARD ASSESSMENT

I asked Mr. Stone for the facility's hazard assessment OCA documentation, including the facility's prepared worst-case and alternative release scenarios. He provided documentation of the worst-case and alternative OCA hazard assessment, calculated using RMP*Comp (Attachment 5). According to the date on the document, it was last updated in 2014. Mr. Kluck said that he was not sure if the OCA was updated when the most recent version of the RMP was prepared in 2019.

The documentation included:

- Parameters and assumptions, including failure scenarios identified under the Hazard Review; information used to estimate population within the distance-to-end-point radii; and data sources referenced to identify environmental receptors
- Rationale for selection of the alternative release scenario
- Methodology applied to determine distance to endpoints.

Based on calculations from RMP*Comp, the toxic endpoint under the worst-case scenario is 4.4 miles, based on assumed release of the total volume of the 30,000-gallon storage tank. The alternative scenario endpoint is 0.2 mile, based on a transportation incident involving the largest nurse tank filled to 85% where the liquid valve is damaged beyond the point where the excess flow valve is able to function properly. However, both of these OCAs still specified 108 N. Adams Avenue as the point of release, rather than the new location at the intersection of S. York Avenue and Nebraska 18A. The number of affected individuals had not changed between the 2014 calculations and the 2019 RMP, also suggesting that the affected population had not been recalculated with use of the most recent census data or the new location. Based on this information, I identified the following preliminary finding:

- 1. The facility failed to update off-site consequence analyses (OCA) for the new location of anhydrous ammonia tanks, as required by 40 CFR 68.30(a) and 68.33(a).**

Because the tanks were moved in late 2020 or early 2021, I determined that the OCA had not been recalculated within 6 months of a change in the covered process. Based on this information, I identified the following preliminary finding:

- 2. The facility failed to update OCAs within 6 months of a change in the process, as required by 40 CFR 68.36(b).**

PROCESS SAFETY INFORMATION

I examined the facility's process safety information. As part of this review, I verified that the facility had safety data sheets (SDS) for anhydrous ammonia as part of the 2014 risk management program documentation.

I reviewed documentation of the facility's maximum intended inventory for anhydrous ammonia and obtained a copy (Folder 3). The inventory identifies the facility's two bulk tanks with an aggregate capacity of 56,000 gallons, adjusted to 47,600 gallons to allow for the 85% maximum fill capacity. The facility assumes a density of 5.15 pounds per gallon of anhydrous ammonia for a total of 245,140 pounds in the storage tanks. In addition, the maximum inventory included 65,600 gallons of anhydrous in the nurse tanks, for a total of 337,840 pounds of ammonia. The value reported in the facility's 2019 RMP was 300,000 pounds. Mr. Stone said that all nurse tanks are not full on site at any one time.

In reviewing the facility's safety information, I noted that the facility had established safe upper and lower parameters, and had noted consequences of deviation therefrom. A table of safe upper

and lower parameters is included in the facility's "Safety Information Summary" documentation (Folder 6).

I asked Mr. Kluck if the facility had compiled written information regarding the anhydrous ammonia equipment. Mr. Kluck provided the specifications for the bulk storage tanks. During the inspection, I also observed the certification plates on the eastern ends of the tanks.

HAZARD REVIEW

I asked Mr. Kluck whether the facility had conducted hazard reviews as required by 40 CFR 68.50. He provided the review included in the facility's 2014 risk management program documentation (Attachment 6). The review, conducted in October 2013, included the required elements, including the hazards associated with the process and regulated substances, opportunities for accidental release, safeguards to limit malfunctions or errors, and steps to detect or monitor releases.

I asked if the facility had conducted a hazard review since 2013, but none of the Aurora team could remember a more recent review. Based on this information, I identified the following preliminary finding:

- 3. The facility failed to update its hazard review at least once every 5 years, as required by 40 CFR 68.50(d).**

OPERATING PROCEDURES

I asked to review the facility's operating procedures for the facility's anhydrous ammonia process. Mr. Kluck provided the SOPs for the facility, also included as part of the 2014 risk management program documentation (Attachment 7). I verified that the facility had procedures for initial startup and startup after emergency shutdown, normal operations, and normal and emergency shutdown. The SOPs also identified potential consequences of deviation, called out in a table following the SOPs.

I asked if the SOPs had been updated since the 2014 documentation was assembled, in particular since the tanks were moved to the new location. None of the Aurora team could remember a review. Based on this information, I identified the following preliminary finding:

- 4. The facility failed to update standard operating procedures (SOP) after major process changes, as required by 40 CFR 68.52(c).**

TRAINING

Mr. Stone and Mr. Kluck told me that Aurora Coop annually trains employees involved in the anhydrous ammonia process. Mr. Kluck also said that regular training occurs as part of monthly safety meetings. Mr. Stone stated that the next annual training was scheduled for February 2023.

MAINTENANCE

I asked to see the facility's maintenance procedures and inspection documentation. Mr. Kluck provided documentation of the facility's maintenance program to ensure mechanical integrity of process equipment. The procedures—based on those recommended by American National

Standards Institute (ANSI) and American Society of Mechanical Engineers (ASME)—include requirements for daily and annual inspections and pressure testing of piping and hoses. Mr. Kluck said that equipment is replaced or repaired as needed, either when a deficiency is observed during an inspection or at the end of the service life (as for hoses). He also furnished documentation of inspections and replacement schedules for equipment. According to Mr. Stone, all hoses and valves were replaced when the tanks were moved.

In November 2021, the facility had been the subject of a fire marshal response to a citizen complaint about a release of ammonia during maintenance of nurse tanks the previous month. Based on responses to an EPA information request later than month, Aurora Coop stated that approximately 60 pounds of anhydrous ammonia had been released when a valve was opened during maintenance. The ammonia was released directly into the air rather into water in a bleed tank. The facility claimed that this was an employee mistake. EPA had subsequently responded to the facility that its responses had been adequate (Attachment 8). During the inspection, I asked Mr. Kluck and Mr. Stone about procedures followed when valves on nurse tanks are changed. They replied that ammonia is not released to the air during tank maintenance.

COMPLIANCE AUDITS

I asked to see the two most recent compliance audits the facility had conducted. Mr. Kluck provided audits performed in 2010 and 2013; copies of these are in Attachment 9. No deficiencies were identified in either audit.

I asked if the facility had conducted a compliance audit since 2013. None of the Aurora team could remember a more recent audit. Based on this information, I identified the following preliminary finding:

- 5. The facility failed to perform a compliance audit at least once every 3 years, as required by 40 CFR 68.58(a).**

INCIDENT INVESTIGATION

I asked Mr. Kluck if any previous incidents had resulted in or posed potential for catastrophic releases. He responded that no such incidents had occurred. I reviewed the facility's Occupational Safety and Health Administration (OSHA) 300 logs for years 2018 to 2023 and found no incidents related to anhydrous ammonia. Mr. Kluck provided the 5-year accident log for the facility, which did not record any accidents requiring documentation in the RMP.

EMERGENCY RESPONSE

Mr. Kluck told me that the facility would not respond to an accidental release of anhydrous ammonia, but would rely on the local fire department for initial response, and that the Harvard Volunteer Fire Department would then likely contact the fire department in Hastings for support. He said that the facility regularly coordinates with the volunteer fire department and the county emergency planning commission. Mr. Kluck stated that the facility had submitted its 2022 Emergency Planning and Community Right-to-Know Act (EPCRA) Tier II report to the Nebraska Department of Environment and Energy. A copy of the Tier II report is in Attachment 10.

MANAGEMENT

I asked Mr. Kluck and Mr. Stone if the facility had developed a management system to oversee implementation of the risk management program elements. Mr. Kluck said that the facility tracks open maintenance and inspection items using spreadsheets and a work order system from Grainger. Mr. Stone showed me the online interface for that system. They also provided the 2014 risk management program binder which addressed all elements of the 40 CFR 68 requirements.

Prior to the inspection, I had reviewed the facility's 2019 RMP submission, which EPA had provided me (Attachment 2). This was the most recent version of the RMP. The location of the facility and the covered process was identified with the old 108 N. Adams Avenue location. It had not been updated with the new location at the intersection of S. York Avenue and Nebraska Highway 18A. Based on this observation, I identified the following preliminary finding:

- 6. The facility failed to update the risk management plan (RMP) with the new tank location, as required by 40 CFR 68.190(b).**

PHOTOGRAPHS

During the site walk-through, I took 23 digital photographs. All of these are in Folder 4 of the CD, and photographs appear in a photographic log in Attachment 4.

CLOSING CONFERENCE

At the end of the inspection, I reviewed my observations and the preliminary findings with the Aurora team. I explained that additional findings could be identified via post-inspection review of the documents obtained. I provided the Confidentiality Notice and the completed Receipt for Samples and Documents form (Attachment 1). Mr. Kluck reviewed the receipt for documents first, signed it, and completed the Confidentiality Notice, indicating that the document copies provided to me did not contain confidential business information. I then filled out the Notice of Preliminary Findings form (Attachment 1) and provided it to Mr. Kluck for review and signature.

I departed the facility around 3:00 p.m. on January 31, 2023.

This report concludes my inspection activities regarding the Aurora Coop in Harvard, Nebraska.

 Digitally signed by
Heather Wood
Date: 2023.03.01
14:28:28 -08'00'

Heather K. Wood
Compliance Inspector

NOTICE OF PRELIMINARY FINDINGS

FIRM NAME: AURORA COOPERATIVE - HARVARD RMP/TRI NO: 1000 0000 3394
FIRM ADDRESS: 40.61377 N 98.10104 W
HARVARD NE
INSPECTOR: HEATHER WOOD DATE: 1/31/23

An inspection of the above facility has just been completed. The purpose of the inspection was to determine compliance with the requirements of the Clean Air Act Section 112r and Emergency Planning Community Right-to-Know Act. The following potential violations were identified:

CITATION	DESCRIPTION
1 <u>68.30(a) 68.33(a)</u>	<u>FAILURE TO UPDATE OFF-SITE CONSEQUENCE ANALYSES FOR NEW TANK LOCATIONS</u>
2 <u>68.36(b)</u>	<u>FAILURE TO UPDATE OCA WITHIN 6 MONTHS OF CHANGE IN PROCESS</u>
3 <u>68.50(d)</u>	<u>FAILURE TO UPDATE HAZARD REVIEW EVERY 5 YRS</u>
4 <u>68.52 (c)</u>	<u>FAILURE TO UPDATE OPERATING PROCEDURES WITH MAJOR PROCESS CHANGE</u>
5 <u>68.58(a)</u>	<u>FAILURE TO UPDATE COMPLIANCE AUDIT EVERY 3 YEARS</u>
6 <u>68.190(b)</u>	<u>FAILURE TO UPDATE RMP WITH NEW TANK LOCATION</u>

This Notice is provided to call your attention to those areas of potential noncompliance at the earliest possible time. This Notice does not constitute a Notice of Violation, Order, or Civil Action pursuant to the Emergency Planning Community Right-to-Know Act of 1986 (SARA Title III) or Section 113 of the Clean Air Act (CAA), and may not be a complete listing of all violations which may be identified as a result of this inspection.

You are encouraged to take corrective action to address these preliminary findings. Please submit the actions you take and/or a schedule of the actions to EPA in writing as soon as possible.

HEATHER WOOD

Phone: 816-412-1768

U.S. Environmental Protection Agency
11201 Renner Blvd.
Lenexa, Kansas 66219

Corrective actions you have taken may be considered in any subsequent U.S. EPA enforcement follow-up, to the extent allowed by Agency regulations, guidance, and policies.

The undersigned hereby acknowledges receipt of a copy of this Notice.

PRINTED NAME: Shane Kluck
TITLE: UP of Safety + Risk Management
SIGNATURE: Shane Kluck DATE: 1/31/23

The EPA Region VII Pollution Prevention Team can help you identify pollution prevention and waste reduction opportunities. For more information, email: rivas.marcus@epa.gov