CAA 112(r) INSPECTION REPORT

<table>
<tr><td colspan="2">Name: Carson Grain Company</td></tr>
<tr><td>Address: 5301 and 5810 Troy Mills Road, Walker, IA, 52352</td><td>Date of Inspection: June 11, 2024</td></tr>
<tr><td>County: Linn</td><td>Case No: 24IA0611</td></tr>
<tr><td>Phone: 319-224-3296</td><td>RMP No: 1000 0017 1707</td></tr>
<tr><td>High Risk: No</td><td>FRS No: 1100 0132 8750</td></tr>
<tr><td>CAA Title V: No</td><td>Program Level: Program 2</td></tr>
<tr><td colspan="2">Mailing Address: 5889 Main St., PO Box 117, Troy Mills, IA, 52344</td></tr>
<tr><td colspan="2">Process: Agronomy business, including retail sale of anhydrous ammonia</td></tr>
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SUMMARY OF OBSERVATIONS

A review of documents pertaining to the Carson Grain facility at 5301 Troy Mills Road, Walker, Iowa, and 5810 Troy Mills Road, Walker, Iowa, and an inspection at those facilities—both with focus on Chemical Accident Prevention Provisions (Title 40 *Code of Federal Regulations* [CFR] Part 68)—identified the following preliminary findings:

5301 Troy Mills Road

1. **68.50(d): The facility did not update its hazard review every 5 years.**
2. **68.52(b): The facility did not document initial startup/normal shutdown procedures.**
3. **68.52(b): *Post-inspection finding: the facility did not document consequences of deviation.***
4. **68.56(d): The facility did not follow recognized and generally accepted good engineering practices (RAGAGEP); the bulk storage tank was hissing and emitting a strong anhydrous ammonia smell.**
5. **68.58(a): The facility did not conduct a compliance audit every 3 years.**
6. **68.58(d): The facility did not document deficiencies in completed compliance audits. *This finding was rescinded after post-inspection review.***
7. **68.58(e): The facility did not retain the two most recent compliance audits.**
8. **68.93(b): The facility did not have a written Emergency Action Plan.**
9. **68.10(b): The facility did not comply with emergency coordination activities.**
10. **68.93(c): The facility did not document coordination activities.**
11. **68.96(a): The facility did not maintain notification exercise documentation.**
12. **68.190(b): The facility did not submit its 5-year update on time.**

5810 Troy Mills Road

1. **68.39(a-d): The facility did not document its off-site consequence analysis.**
2. **68.50(a): The facility did not conduct a hazard review.**
3. **68.58(a-e): The facility did not conduct a compliance audit.**
4. **68.93(b): The facility did not have a written Emergency Action Plan.**
5. **68.10(b): The facility did not comply with emergency coordination activities.**
6. **68.190(b): The facility did not submit a Risk Management Plan (RMP) for the covered process at a new location.**

INTRODUCTION

I, Amelia Papajohn, Tetra Tech, Inc. (Tetra Tech), as a representative of U.S. Environmental Protection Agency (EPA) Region 7, inspected the Carson Grain facility in Walker, Iowa, on June 11, 2024.

On June 3, 2024, I had called the facility; Ms. Dawn Aberle answered, and I alerted her to an inspection planned for June 11, 2024. I then sent an email outlining the nature of the inspection and the date and time I would be arriving.

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 Part 68. I referenced these regulations throughout the inspection by using the Program 2 Process Checklist and Supplemental Checklist for Ammonia Fertilizer Sector Inspections (Folder 1, Attachment 1). All attachments cited in this inspection report (Attachments 1 through 12) are also in a folder on the accompanying CD. Folder numbers on the CD correspond to attachment numbers.

HISTORY OF BUSINESS

The Carson Grain facility at 5301 Troy Mills Road, Walker, Iowa, stores anhydrous ammonia for sale to farmers. The office address is 5889 Main Street, Troy Mills, Iowa. My discussion with Mr. Jay Carson, the owner, revealed that Carson Grain at times stores five or six full, 1,000-gallon nurse tanks (disconnected from towing vehicles) at 5810 Troy Mills Road in Walker, Iowa, approximately 2.5 miles north of the RMP reported location. This would be an RMP-covered process, because the facility occasionally stores more than 10,000 pounds at this location.

At the time of inspection, approximately 15,000 pounds of anhydrous ammonia was on site at 5301 Troy Mills Road. The 84,000-pound bulk storage tank was at 15% capacity (~12,600 pounds), and a couple of nurse tanks held small amounts of anhydrous ammonia. Ten empty nurse tanks were at the 5810 Troy Mills Road address at time of inspection.

I asked to review the facility's maximum intended inventory (Folder 2, Attachment 2); I noticed the document was dated from 2007 and inquired about accuracy of the numbers. Mr. Carson said that the facility had increased its maximum intended inventory of nurse tanks since then.

He proceeded to correct the numbers on the document, resulting in a total of 219,198.2 pounds. This value was about 50,000 pounds larger than what was reported in the facility's 2022 RMP (Folder 3, Attachment 3). Ms. Dawn Aberle, Carson Grain's secretary, proceeded to the CDX website and corrected the amount listed before the end of the inspection. I mentioned that the facility's 2023 Tier II (Attachment 2) had reported a maximum inventory of 99,000 pounds; Ms. Aberle said she would correct that amount in this year's submission.

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

	Quantity (pounds)
	Anhydrous Ammonia
Quantity at the Time of Inspection at 5301 Troy Mills	~15,000 [(a)]
Quantity at the Time of Inspection at 5810 Troy Mills	0 [(b)]
Quantity listed in 2022 RMP Submission	165,000 [(c)]
Quantity in Maximum Inventory Documentation	219,198.2 [(d)]
Quantity in 2023 Tier II	99,000 [(e)]

Notes:

(a) Amount I observed on June 11, 2024, at the 5301 Troy Mills Road address based on the gauges and facility inventory knowledge.

(b) Amount I observed on June 11, 2024, at the 5810 Troy Mills Road address based on the gauges and facility inventory knowledge.

(c) See facility's 2022 RMP Submission (Attachment 3). This quantity assumes that all nurse tanks are full.

(d) See facility's maximum inventory calculations (Attachment 2).

(e) See facility's 2023 tier II (Attachment 2).

PERSONS INTERVIEWED AND INDIVIDUAL RESPONSIBILITIES

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

Jay Carson .... Carson Grain, Owner
Dawn Aberle .... Carson Grain, Secretary

OPENING CONFERENCE

I arrived at the Carson Grain facility office at 5889 Main Street, Troy Mills, Iowa, at approximately 8:30 a.m. on June 11, 2024, and met with facility personnel in a conference room. I explained that I was conducting the inspection under authority of the CAA's Chemical Accident Prevention Provisions and that the inspection would consist of a facility walk-through, review of relevant documents, and taking of photographs. I also stated that I would conduct an exit interview to review and explain my findings, provide a receipt for any requested document copies, and answer questions. I presented my inspection credentials to facility personnel, filled out a Notice of Inspection Form (Attachment 1) and explained that my inspection was for enforcement purposes and that enforcement actions could result from the inspection. Mr. Carson signed the Notice of Inspection Form.

After the introduction, Ms. Aberle presented the facility's RMP binder. I asked for relevant documents from the binder, including the facility's off-site consequence analysis, safety information, hazard reviews, operating procedures, training records, maintenance records, and compliance audits, asking questions when necessary. Ms. Aberle inquired why this facility had been selected for an RMP inspection; I replied that EPA considered the Carson Grain facility an agency priority because of its RMP was not re-submitted within 5 years of the previous submission.

HAZARD ASSESSMENT

I asked to review Carson Grain's hazard assessment, including worst-case and alternative-release scenarios (Folder 4, Attachment 4).

Ms. Aberle provided the facility's worst-case release scenario—complete loss of the bulk storage tank. The bulk storage tank is the largest at the facility (capacity of 84,000 pounds). Carson Grain used RMP*Comp and DEGADIS models to calculate a release rate of 8,400 pounds per 10 minutes, resulting in a distance to endpoint of 3.3 miles. An urban topography was assumed because of various obstacles in the area, and 736 people were within the release radius.

The alternative release scenario for the Carson Grain facility was a break of 1.5-inch vapor transfer hose from the bulk storage tank. Assumedly, the release would continue for 2 minutes before facility personnel could engage the manual shutoff. The actual pipe diameter was not used in the model; instead, a 2-inch pipe was assumed, so the release rate is slightly overestimated. Using RMP*Comp, the release rate would be 1,500 pounds per minute; after 2 minutes, the total amount released would be 3,000 pounds. The affected radius would be 0.3 mile from the release point, and within that radius, two people would be affected.

Appropriate assumptions and inputs appear to have been implemented; Carson Grain's hazard assessment appears to meet requirements in 40 CFR 68.25.

However, the facility at 5810 Troy Mills Road did not have a hazard assessment. I had a preliminary finding:

68.39(a-d): The facility did not document its off-site consequence analysis.

PROCESS SAFETY INFORMATION

I asked facility personnel to show me documentation of safety information, including a Safety Data Sheet (SDS) for anhydrous ammonia, codes and standards followed, equipment specifications, and safe upper and lower limits (Folder 5, Attachment 5).

I reviewed the facility's anhydrous ammonia SDS, which contained physical and chemical information, exposure limits, as well as first aid procedures should an exposure occur.

I inquired about codes and standards Carson Grain follows. Ms. Aberle and Mr. Carson responded that the facility applies 29 CFR 1910.111, Occupation Safety and Health Administration (OSHA) Process Safety Management (PSM), American National Standards Institute (ANSI), and American Society of Mechanical Engineers (ASME) standards and Iowa state anhydrous ammonia guidance for all process equipment. Additionally, I reviewed nurse tank and storage tank diagrams from maintenance guidance documents.

Safe upper and lower limits are defined for temperatures, pressures and flows, and anhydrous ammonia compositions.

The facility's process safety information appeared to meet requirements in 40 CFR 68.48.

HAZARD REVIEW

I inquired about the facility's two most recent hazard reviews; Ms. Aberle could find only one from February 2, 2009, regarding the 5301 Troy Mills Road property (Folder 6, Attachment 6). Because the facility had not completed a hazard review of both addresses every 5 years, I made the following preliminary findings:

68.50(d): The facility (5301 and 5810 Troy Mills Road) did not update its hazard review every 5 years.

68.50(a): The facility (5810 Troy Mills Road) did not conduct a hazard review.

No deficiencies were found in the 2009 hazard review. I asked how the facility would address deficiencies. Personnel responded that if a deficiency was documentation-related, Ms. Aberle would address it, but if it was maintenance- or equipment-related, Mr. Carson would correct it.

OPERATING PROCEDURES

I requested to review Carson Grain's standard operating procedures, and Ms. Aberle provided them (Folder 7, Attachment 7). These included instructions for normal operations (namely filling nurse tanks), emergency shutdown, normal shutdown, and startup following a shutdown per 40 CFR 68.52(b). The facility did not have temporary operating procedures because it closes in the winter months. Because of no major changes to the process, procedures have not been updated. I asked if the facility had written procedures for initial startup and normal shutdown, such as opening and closing the facility daily and at the beginning and end of the season. Mr. Carson said they did not. After the inspection, I also noticed the facility did not document its consequences of deviation. I made two preliminary findings:

68.52(b): The facility (5301 Troy Mills Road) did not document initial startup/normal shutdown procedures.

68.52(b): ***Post-inspection finding: the facility (5301 Troy Mills Road) did not document consequences of deviation.***

TRAINING

I asked Mr. Carson about training of employees involved with anhydrous ammonia operations. He replied that usually he is the only person at the facility who interacts with anhydrous ammonia. In the past, according to Mr. Carson, Carson Grain has had one or two employees involved with anhydrous ammonia—in those situations, employees would undergo a knowledge assessment on anhydrous ammonia safety. I received a copy of the training test, as well as a document showing that Mr. Carson would be the main person interacting with anhydrous ammonia on site (Folder 8, Attachment 8). Training is documented through completion of assessments and a certificate, which Ms. Aberle tracks.

MAINTENANCE

I requested to review maintenance documentation. Ms. Aberle and Mr. Carson presented equipment test results and inspection checklists (Folder 9, Attachment 9). I was shown a tank thickness certification conducted by Judson Tank Company and a yearly checklist for the bulk storage tank that documented maintenance deficiencies and when these had been addressed. I asked if underground piping was present at the facility to which Mr. Carson responded no.

I asked who conducts maintenance of process equipment. Mr. Carson replied that he completes most maintenance tasks at the moment. He said he typically replaces pop-off and hydrostatic valves and hoses in-house, approximately every 5 years or according to manufacturer specifications. Maintenance procedures and equipment specifications are documented in the facility RMP binder. Sometimes pump replacements are contracted out; for these cases, a contractor safety checklist document is in Carson Grain's standard operating procedures.

During the facility walk-through at the 5301 Tory Mills Road address, I noted that transfer hoses had replacement dates of 2025, tanks had proper labels, and first-aid water was available near the bulk storage tank. However, I noticed a strong anhydrous ammonia smell that appeared to be coming from the bulk storage tank and heard a hissing noise. Mr. Carson checked to make sure the valves were closed, and they were. The hissing noise and smell continued. I thus made another preliminary finding:

68.56(d): The facility (5301 Troy Mills Road) did not follow recognized and generally accepted good engineering practices (RAGAGEP); the bulk storage tank was hissing and emitting a strong anhydrous ammonia smell.

COMPLIANCE AUDITS

I requested the last two compliance audits the facility had conducted. Ms. Aberle could produce only one from 2007 regarding the 5301 Troy Mills Road property (Attachment 10). Because the facility had not completed a compliance audit of both addresses every 3 years, I made the following preliminary findings:

68.58(e): The facility (5301 Troy Mills Road) did not retain the two most recent compliance audits.

68.58(a): The facility (5301 Troy Mills Road) did not conduct a compliance audit every 3 years.

68.58(a-e): The facility (5810 Troy Mills Road) did not conduct a compliance audit.

The compliance audit I reviewed had no deficiencies documented. I asked how the facility tracks corrections of noted deficiencies. Mr. Carson responded that at the moment, he conducts all anhydrous ammonia-related maintenance, so he would note them on a checklist. As such, I rescinded an initial finding after post-inspection review of documents:

68.58(d): The facility (5301 Troy Mills Road) did not document deficiencies in completed compliance audits. *This finding was rescinded after post-inspection review.*

INCIDENT INVESTIGATION

I asked facility personnel if any incidents involving anhydrous ammonia had occurred within the past 5 years. Mr. Carson said that the facility has not ever had an incident.

EMERGENCY RESPONSE

I asked facility personnel if employees respond to anhydrous ammonia releases or if they rely on the local fire department. Mr. Carson and Ms. Aberle said that they would call 911, and the Troy Mills Fire Department would respond in the event of a release.

I requested to review the facility's emergency action plan (EAP). Mr. Carson explained that they did not have a written plan. As such, an EAP was not provided to the local emergency planning and response organization. I made a preliminary finding regarding both the 5301 and 5810 Troy Mills Road addresses:

68.93(b): The facility did not have a written Emergency Action Plan.

I then inquired about documentation of the annual notification exercise. Mr. Carson and Ms. Aberle responded that they did not have documentation. I made other findings for both the 5301 and 5810 Troy Mills Road addresses:

68.96(a): The facility (5301 Troy Mills Road) did not maintain notification exercise documentation.

68.93(c): The facility (5301 Troy Mills Road) did not document coordination activities.

68.10(b): The facility (5301 and 5810 Troy Mills Road) did not comply with emergency coordination activities.

Finally, I noticed that Carson Grain had submitted its 5-year RMP submission late. Additionally, the facility did not submit an RMP for the covered process above a threshold quantity at 5810 Troy Mills Road. I thus made additional preliminary findings:

68.190(b): The facility (5301 Troy Mills Road) did not submit its 5-year update on time.

68.190(b): The facility (5810 Troy Mills Road) did not submit an RMP for the covered process at a new location.

MANAGEMENT

I asked facility personnel who oversees RMP-related tasks. They said that Ms. Aberle maintains RMP-related documentation and submits Carson Grain's RMPs. Mr. Carson conducts maintenance tasks and maintains operating procedures and safety and training materials. These assignments are documented in Folder 11, Attachment 11.

PHOTOGRAPHS

During the site walk-through, I took 12 digital photographs. All of these are in Folder 12 of the CD, and selected photographs appear in a photographic log in Attachment 12.

CLOSING CONFERENCE

After I finished reviewing the facility's binder and completed the site walk-through, I explained to facility personnel that I had made the following preliminary findings:

5301 Troy Mills Road

1. **68.50(d): The facility did not update its hazard review every 5 years.**
2. **68.52(b): The facility did not document initial startup/normal shutdown procedures.**
3. **68.52(b):** ***Post-inspection finding: the facility did not document consequences of deviation.***
4. **68.56(d): The facility did not follow recognized and generally accepted good engineering practices (RAGAGEP); the bulk storage tank hissed and emitted a strong anhydrous ammonia smell.**
5. **68.58(a): The facility did not conduct a compliance audit every 3 years.**
6. **68.58(d): The facility did not document deficiencies in completed compliance audits.** ***This finding was rescinded after post-inspection review.***
7. **68.58(e): The facility did not retain the two most recent compliance audits.**
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5810 Troy Mills Road

1. **68.39(a-d): The facility did not document its off-site consequence analysis.**
2. **68.50(a): The facility did not conduct a hazard review.**
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6. **68.190(b): The facility did not submit an RMP for the covered process at a new location.**

I indicated that additional findings could be identified during post-inspection reviews of the documents collected. I provided the Confidentiality Notice and the Receipt for Samples and

Documents form (Attachment 1). Mr. Carson reviewed and signed both documents, indicating that the document copies provided to me did not contain confidential business information.

I departed from the Carson Grain facility at approximately 12:45 p.m. on June 11, 2024.

This report concludes inspection activities regarding the Carson Grain facility in Walker, Iowa.

DAVE HENSLEY Digitally signed by DAVE HENSLEY Date: 2024.09.10 13:31:56 -05'00'

Amelia Papajohn
Compliance Inspector

Dave Hensley
Chemical Accident Prevention Section Air Branch
Enforcement & Compliance Assurance Division
Region 7 U.S. Environmental Protection Agency

ATTACHMENTS

1 – Inspection Forms and Checklists
2 – Maximum Intended Inventory
3 – RMP Submissions
4 – Hazard Assessment
5 – Process Safety Information
6 – Hazard Review
7 – Operating Procedures
8 – Training
9 – Maintenance Documentation
10 – Compliance Audit
11 – Management System
12 – Photographic Log

CD – Attached to Report