Inspection Report: Vance Brothers, Clean Air Act Stationary Source

Facility Name:	Vance Brothers
Inspection Date:	September 26, 2024
Facility Address:	5201 Brighton Avenue and 4915 Chelsea Avenue, Kansas City, MO 64130
ICIS-Air ID:	MO0000002909500037
Federal Facility:	No
NCI:	Creating Clean Air for Communities
Facility size:	Synthetic Minor
Activity:	Partial Compliance Evaluation
State Referral:	No
EJ:	Yes
NAICS code:	324121 – Asphalt Paving Mixture and Block Manufacturing
Lead Inspector:	Elizabeth Hubbard, ERG Inspector, (919) 468-7894
Asst. Inspector:	None.
Other Attendees:	Joe Terriquez, Enforcement Officer, US Environmental Protection Agency, Region 7
Facility Contact:	Kevin Nordhues, Compliance Director, (816) 922-8005 knordhues@vancebrothers.com

1. **Plant Description:**

According to the facility's Title V operating permit, "Vance Brothers, Inc. operates asphalt plants at two locations in Jackson County: 5201 Brighton & 4915 Chelsea Ave. The two plants have separate IDs, but share products and are considered one source for construction and operating permits. Products include cationic and anionic asphalt emulsions, asphalt-based sealers, coal tar-based sealers, acrylic coatings, and a polymer modified asphalt. There are a large number of tanks of various sizes at both locations. Vance Brothers is a synthetic minor source for carbon monoxide (CO), oxides of nitrogen (NOx), and volatile organic compounds (VOCs)."

Figure 1: Satellite image of the Vance Brothers "Brighton Plant" in Kansas City, MO.

Figure 2: Satellite image of the Vance Brothers “Chelsea Plant” in Kansas City, MO.

Figure 2: Satellite image of the Vance Brothers “Cave” in Kansas City, MO.

2. **Facility Entry:**

The representatives of the United States Environmental Protection Agency (EPA), Joe Terriquez from EPA Region 7 and Elizabeth Hubbard from Eastern Research Group, Inc. (ERG), arrived at the Vance Brothers facility at 5201 Brighton Avenue in Kansas City, MO ("Vance Brothers", or "the facility"), at approximately 8:40 am. The EPA representatives were met upon arrival by Kevin Nordhues, Compliance Director. Mr. Nordhues led the EPA representatives to a conference room for an opening conference where they were joined by Jake Woolard, Environmental Compliance Administrator.

3. **Opening Conference:**

The EPA representatives explained that they were at the facility to conduct a routine Clean Air Act (CAA) inspection. The EPA representatives presented their identification credentials and provided an overview and scope of the inspection. Ms. Hubbard explained that ERG works as contractors to conduct facility inspections for EPA.

The EPA representatives asked whether the facility's most recent Title V permit is the permit issued November 13, 2017 with an expiration date of November 13, 2022. Mr. Nordhues said this is the most recently issued Title V permit and that the facility had applied for an updated permit about a year earlier. He noted that the facility had received a notification from Missouri Department of Natural Resources (MoDNR) because their Title V permit renewal application was overdue, and the facility submitted the renewal application immediately after receiving the notice from MoDNR. According to an Administrative Order on Consent posted to the MoDNR website,[1] the facility's permit expired on November 13, 2022, and an application was due by May 13, 2022. Vance Brothers did not submit an updated application until April 4, 2023, more than 4 months after the old permit expired.

According to the facility representatives, the facility recently underwent a voluntary environmental audit conducted by a contractor, UES Consulting Services, Inc., to assess the facility's environmental compliance.

The facility representatives noted that the Title V permit covers two facilities owned by Vance Brothers: the facility located on Brighton Avenue, where the group was meeting at that time ("Brighton Plant") and the facility located on Chelsea Avenue, which is located a few minutes down the road ("Chelsea Plant"). Vance Brothers also has a third property across the road from the Brighton Plant referred to as the "Cave," which is used for truck maintenance and houses a few additional storage tanks. The EPA representatives noted they would like to tour all three sites during the inspection to get a full picture of their operations.

Due to Mr. Nordhues' schedule, the group proceeded with a walkthrough of the Brighton Plant and agreed to return to the conference room for additional technical discussion later.

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[1] Vance Brothers Inc. Administrative Order on Consent APCP-2023-044. (2024). Retrieved December 17, 2024, from https://dnr.mo.gov/document/vance-brothers-inc-administrative-order-consent-apcp-2023-044-0

4. **Facility Tour/Walkthrough:**

At approximately 9:20 am, the facility representatives led the EPA representatives on a tour of the Brighton Plant. The EPA representatives explained that during the facility tour, they would capture digital images of the facility's processes and emission points using a digital point and shoot camera, as well as an optical gas imaging, forward looking infrared (FLIR) video camera, model GF320, that are not intrinsically safe. They informed the facility representatives that they would let them know prior to taking each photo or video and explained that the facility would have the opportunity to claim any of the images as confidential business information (CBI), if needed. The facility representatives did not express any concerns with the EPA representatives capturing images. The list of digital images and FLIR videos taken during the facility tour are included in Appendix A.

The tour included the continuous asphalt process, asphalt crusher, and tank farm. The EPA representatives observed a light opacity plume coming from the continuous asphalt process mixing drum stack which could be seen with the naked eye. See photo DSC01470. Mr. Terriquez also observed the stack using the FLIR camera and could see indications of possible VOC emissions coming from the stack. See video MOV_0027.

The EPA representatives observed the asphalt crushing operations and noted that the operation was not enclosed. Dust could be seen coming from the crusher. See photo DSC01471.

The facility's tank farm includes several heated asphalt cement (AC) tanks. Mr. Nordhues explained that the tanks are heated to lower the viscosity of the AC. Heating oil is heated in a heat exchanger and is then pumped through coils within the tanks to maintain the temperature of the AC at 250 to 300 degrees Fahrenheit. Mr. Nordhues told the EPA representatives that the facility's emulsion tanks are also heated, but to a lower temperature.

Using the FLIR camera, Mr. Terriquez observed emissions coming from several tank vents. It was unclear whether the emissions were just steam or a mixture of steam and VOCs. Emissions were observed from the vents of the following tanks:

- Tank #106 – Recycled Medium Curing Cutback (MC-800)
- Tank #107 – Recycled MC-250
- Tank #108 – Off spec MC-30
- Tank #109 – Slow Curing Cutback SC250
- Tank #113 – Recycled AC
- Tank #311 – Cutback Base
- Tank #312 – Emulsion Base

The EPA representatives observed two tanks that were not in use at the time of the inspection. Mr. Nordhues told them that the tanks previously were used to store naphtha and mineral spirits. He said that the tanks may be repurposed but had been out of service for about one year. A third tank, Tank #104, was previously used to store mineral spirits but is now used to store diesel.

At approximately 10:30 am, the group returned to the conference room.

The EPA representatives told the facility representatives they would like to walk through the emission spreadsheets the facility uses to calculate its VOC, CO, and NOx emissions. More specifically, they expressed that they would like to understand how the facility determines its VOC emission factor. The facility representatives agreed to show the EPA representatives their emissions calculations later in the inspection.

Ms. Hubbard noted that the facility's Title V operating permit indicates that some of the facility's tanks are internal floating roof tanks subject to 40 CFR Part 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and On or Before October 4, 2023 (NSPS Subpart Kb). Ms. Hubbard asked whether the facility is meeting these permit requirements. Mr. Nordhues responded that all the facility's tanks are fixed roof tanks, and he is not aware of any tanks with floating roofs. Additionally, he stated that he was not aware of any tanks at the facility that would be used to store volatile organic liquids that would be subject to NSPS Subpart Kb. Ms. Hubbard asked whether any of the tanks at the facility have VOC control devices, and Mr. Nordhues said no.

Based on this information, Mr. Terriquez explained that it is possible the facility does not have any tanks subject to NSPS Subpart Kb and that the subpart seemed to be listed in the facility's Title V permit in error. However, Mr. Terriquez noted that the materials stored in the facility's tanks would need to be reviewed to see if the vapor pressures of the materials would meet the applicability criteria for NSPS Subpart Kb.

Mr. Terriquez asked whether the facility has a supplemental generator used to run the crusher, and Mr. Woolard said no. Mr. Woolard explained that the crusher used to have a generator, but it was converted to run on electricity in 2019.

The EPA representatives asked whether the facility ever receives odor complaints from neighbors. Mr. Woolard noted he had only been working at the facility since June 2024, but he was not aware of any complaints that had been received during his time there.

At approximately 11:00 am, the EPA representatives took a lunch break. They returned to the facility at approximately 12:40 pm and met again in the conference room.

At approximately 1:00 pm, the facility representatives led the EPA representatives on a tour of the Cave and the Chelsea Plant.

At the Cave, the group visited a boiler and several storage tanks. The EPA representatives observed a cave, which Mr. Nordhues said is only used for truck maintenance. Mr. Nordhues told the inspectors that no mining occurs on site.

Mr. Terriquez observed the storage tanks using the FLIR camera and did not see indications of emissions from any of the tanks. Mr. Nordhues told the inspectors that the tanks at the Cave are used to store asphalt during the off season. He explained that the facility tends to purchase and store asphalt in the off season because it is less expensive then.

After visiting the Cave, the group proceeded to the Chelsea Plant. Mr. Nordhues told the inspectors that the Chelsea Plant produces polymer-modified asphalt. He explained that polymers are added to the asphalt to improve workability at a wider temperature range. He reiterated that there are no floating roof tanks at the site.

Mr. Terriquez observed the boiler at the Chelsea Plant using the FLIR camera. He saw what appeared to be heat flux from the boiler, but there did not appear to be any signs of emissions.

At approximately 2:00 pm, the group returned to the conference room for a closing conference.

5. **Closing Conference/Technical Discussion:**

The EPA representatives thanked the facility representatives for the tour and noted they had some additional questions.

The EPA representatives noted concerns about the lack of emission controls for the asphalt crusher. They asked the facility representatives if any formal applicability determination had been made for 40 CFR Part 60 Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants (NSPS Subpart OOO), which would require emission controls for the asphalt crusher if it is subject to the subpart. Mr. Nordhues indicated he was unaware of whether the asphalt crusher is subject to NSPS Subpart OOO and did not think a formal applicability determination had been made.

Mr. Terriquez asked whether the facility conducts opacity emissions observations. The facility representatives responded that the facility conducts opacity observations daily using EPA Method 9. They showed the EPA representatives records of the opacity observations taken over the past month. Mr. Terriquez noted that the Method 9 observation forms the facility was using do not match EPA's official Method 9 forms and that they are missing some required information. He noted that Vance Brothers' Title V permit requires the facility to use Method 22 and/or Method 9 procedures and recommended switching to the official EPA forms, which can be found on the EPA website. The facility representatives indicated they would start using the official EPA forms.

The facility representatives showed the EPA representatives the spreadsheet used to calculate the facility's emissions. The EPA representatives reviewed the VOC emissions calculations and noted they had some questions about where the underlying VOC emission factors came from. The EPA representatives requested a copy of the spreadsheets and any supporting documentation explaining how the emissions are calculated for further review, which the facility representatives agreed to provide.

The EPA representatives explained that EPA would provide Vance Brothers with an inspection report in approximately 60 days. They explained that the report would be available to the public through the Freedom of Information Act, and therefore, if the company wanted to claim any notes or digital images as CBI, they could do so. They provided the facility representatives with the EPA's confidentiality notice form. Mr. Nordhues signed the form. See Appendix B.

The EPA representatives requested copies of the following records. They provided the facility with a document receipt, which Mr. Nordhues reviewed and signed. See Appendix C. They informed the facility representatives that they would follow up via email with a link where the facility could upload electronic copies of the records:

- Tank list including capacity and contents on September 26, 2024
- Safety data sheets for all materials stored in the facility's tanks on September 26, 2024
- Method 22 observations from August and September 2024
- Method 9 observations from August and September 2024
- Method 9 certifications for any personnel performing Method 9 observations
- Supporting documentation for the facility's emissions calculations, including emission calculation report notes and all other files referenced therein
- Emission calculation spreadsheets for the past three years
- Asphalt crusher manufacturer's data including construction date and rated capacity

As of October 2, 2024, representatives from Vance Brothers responded via email and provided the requested documentation to EPA.

At the conclusion of the inspection, the EPA representatives summarized questions and concerns raised during the inspection. They noted that the facility's asphalt crusher may be subject to NSPS Subpart OOO, but they would need to review additional information to confirm. They also expressed concerns that the facility's operating permit indicates that NSPS Subpart Kb applies, but the facility does not maintain the emission controls required by the subpart. It is unclear whether NSPS Subpart Kb is applicable, and they would again need to review additional information to confirm. They provided the facility with a Notice of Preliminary Findings form and explained that EPA may follow up with additional questions. See Appendix D.

The EPA representatives thanked the facility representatives for their time and cooperation during the inspection.

At approximately 3:15 pm, the inspectors departed from the facility.

6. **Appendices**
    A. Digital Image Log
    B. Confidentiality Notice Form
    C. Document Receipt
    D. Notice of Preliminary Findings Form

Inspection Report Sign-Off

Lead Inspector's Name: Elizabeth Hubbard, ERG

X Elizabeth Hubbard

Digitally signed by Elizabeth Hubbard
Date: 2024.12.18 10:18:25 -05'00'

Lead Inspector

Supervisor's Name: Lance Avey, Acting Air Branch Chief, ECAD

X LANCE AVEY

Digitally signed by LANCE AVEY
Date: 2024.12.30 10:45:51 -06'00'

Supervisor