United States Environmental Protection Agency
Region 5
Air and Radiation Division
77 West Jackson Boulevard
Chicago, IL 60604-3590

DATE: JUN 14 2013

SUBJECT: Unannounced Inspection of KCBX Terminals Company
Chicago, Illinois

FROM: Jennifer A. Wilson P.E., Environmental Engineer
Air Enforcement and Compliance Assurance Section (IL/IN)

THRU: Nathan A. Frank, P.E., Chief
Air Enforcement and Compliance Assurance Section (IL/IN)

TO: File

Facility:	KCBX Materials Terminal
Location:	Chicago, Illinois
Inspection Date:	May 10, 2012
Inspection Team:	Roshni Brahmbhatt, EPA Region 5 Ray Cullen, EPA Region 5 Joe Kotas, Illinois Environmental Protection Agency Danny Marcus, EPA Region5 Jennifer Wilson, EPA Region 5
Facility Attendees:	Jim Simmons, Terminal Manager Pete Rotundo, Logistics Manager Roberta Peterson, Administrative Clerk

Purpose of the Inspection:

Citizens near the plant complained to U.S. Environmental Protection Agency (EPA) about coal dust crossing the property line. The purpose of the inspection was to investigate this complaint and evaluate compliance of the facility with its Federally Enforceable State Operating Permit (FESOP) and the Clean Air Act.

Off-Site Observations:

On May 10, 2012, Roshni Brahmbhatt, Ray Cullen, Danny Marcus, and I drove around the plant site and stopped in various locations to see if coal dust was crossing the property line. While driving around, I saw coal dust coming off a coal pile on the western side of the property. I estimated the maximum opacity to be 15%. Figure 4 shows a picture of this pile. This picture does not coincide with the point in time of maximum instantaneous opacity. After driving around the property, we met Joe Kotas, an inspector for the Illinois Environmental Protection Agency (IEPA), outside the facility and then drove up to the gate, showed our credentials, and parked the car in the parking lot.

Opening Conference:

We entered the office building at the KCBX Terminals Company facility (Facility) about 10:30 A.M. I asked an employee to speak with the environmental manager of the Facility and Mr. Jim Simmons returned. Mr. Simmons is the Manager of the terminal. We showed him our credentials and told him we were there to do an environmental inspection. He explained that the environmental manager of the Facility was in Atlanta and he went down the hall to call him. When he returned, I told him we would like to do a tour of the facility first, have a meeting to ask questions about the processes at the Facility, and then review the Facility's records. We asked him if he considered any of the information at the Facility to be Confidential Business Information. He said he would consider anything we say in our report to be confidential, the pictures taken at the facility, and any records provided.

Tour:

Mr. Simmons then took us on a tour of the Facility. During the tour we observed the following:

- The facility had an odor similar to asphalt.
- Shortly after the tour started, an employee got on his walkie-talkie and said, "EPA's here." At that time, the Facility started to shut down. Mr. Simmons explained this by saying that the Facility is calibrating the scales.
- I observed a large ship that was being loaded with coal to have an instantaneous opacity of 100% at its stack.
- Mr. Kotas said, based on the activities he had seen at the Facility before, it did not look like the Facility was operating.
- There were holes in the roof of the building over the railcar unloading area. A picture of this is at the end of the report.
- The railcar loading and unloading area was covered in black particulate matter that covered my hand when I touched the railing by the stairs.
- There was white smoke emitting from the Powder River Basin (PRB) coal piles. Mr. Simmons explained that this type of coal spontaneously combusts.
- There were 16 piles of coal and petcoke being stored at the Facility during the inspection.

- The coal piles were fairly wet and it looked as if the water cannons had just been used. There were standing puddles in many places as shown in the pictures at the end of the report.
- Mr. Cullen used the range finder and determined that one of the piles was 54 feet high.
- There was an odor by the screening area.

Pictures taken during the tour are included at the end of the report.

Facility Operations:

During the tour, Mr. Simmons explained the processes at the Facility as follows:

Process Information

The Facility has been operating since the 1950's and is a storage location for petroleum coke (petcoke) and coal before it is shipped to end-users. The materials are stockpiled on pads on the property of the Facility. The Facility receives petroleum coke by barge and ships it by barge. The Facility has not received petcoke by truck since 2008. Coal is received by rail and sometimes by barge. The majority of the coal is shipped by vessel and some of it is shipped by truck. The Facility has significantly more coal than petcoke. The Facility has approximately 700,000 tons of storage onsite and it receives 2.5 to 3 million tons of coal a year.

The Facility uses various pieces of equipment to facilitate the movement of the materials around the property. There are many conveyors and seven of the conveyors by the coal piles are moveable. Some moveable conveyors are shown in Figures 2 and 3. There is a main conveyor system that is not moveable called the collector belt. The rubber belt starts in the railcar unloading area: a metal house where the materials fall out of the bottom of the railcars through hoppers onto the collector belt. Materials are sprayed with water as they fall onto the belt. This area is shown in Figures 5,6, and 7. After this the belt carries the coal to a pad or a vessel. There are two major transfer points on the main conveyor system. The first one is called Transfer Tower 1 which is where material transfers from the collector belt to the incline belt. The incline belt takes the material to Transfer Tower 2 where the material is sent to the pad (storage area) or to a vessel or barge. There are five end loaders that move material.

There is a screening plant at the Facility and it was built in the mid to late 90's. Materials that are contaminated are screened. Examples of contamination include cement, rocks, and rail ties. After contamination is removed, it is sent for disposal at a landfill.

Emissions, Pollution Controls and Opacity Testing

The Facility is equipped with a water cannon system to keep the materials moist and reduce fugitive emissions. The system was installed in 1999 and started operating in 2000. A water meter was added to the system in 2008 and a programmable logic control was installed in 2009. The water cannons are 65 feet high and Mr. Simmons said the piles must be shorter than the cannons so they can be watered. The piles are watered a minimum of four times a day. The piles are watered more if it is windy. If wind is measured above 12 to 15 mph, the water cannons are automatically operated. If the wind speed is still over the threshold value after a cycle, the system will cycle continuously until the wind speed reduces below the threshold value. If it is raining, the employees may take the cannons offline. If there are freezing conditions, the cannons are shut down. The cannons are generally shut down after Thanksgiving and fugitive emissions are controlled with snowfall or water trucks. In the railcar unloading building, the water spray system is heat traced and can still be used in the winter.

The cannons have historically been inspected once a month, but the Fugitive Particulate Operating Program now requires the employees to inspect the cannons once a week. The employees also inspect the coal piles about one time per month.

The water cannons are the main method of controlling emissions at the Facility as there are no dust collectors or baghouses. The Facility is required by its Federally Enforceable State Operating Permit to keep the moisture content of the materials at 1.3% or higher, but the employees cannot analyze the moisture content onsite and the employees never test the moisture content of the materials that are stored there. Moisture analyses are often run on material that has been screened or on material that was received with low moisture content is subsequently watered.

Opacity testing is performed at the Facility by a consultant. The Facility works with him to understand the opacity of various operations. The opacity of almost everything has been analyzed including the transfer areas, the loading of vessels, and the unloading of railcars.

General Information

Mr. Simmons has worked at the Facility since the middle of 2008. The Facility employs about 30 people. There are four operating crews of six people, three maintenance people, and some clerical people.

The Facility operates 24 hours a day from late April until the middle of December. Then, there are reduced shifts to the middle of January. The Facility does not operate during the second half of January or February. Operations begin again sometime in March, depending upon the weather.

Closing Conference:

After the tour, we asked for records that the FESOP requires the Facility to have onsite. A list of records that were obtained is at the end of the report.

Then, we had a brief closing conference about 2:15 P.M. An environmental engineer in the company's Wichita office, Terry Steinert, was on the call. We mentioned some potential concerns and told them we might send an information request to obtain more information.

Records Obtained:

KCBX Terminals Company provided the following records:

1) Annual Emissions Report sent to the IEPA for 2008
2) Annual Emissions Report sent to the IEPA for 2011
3) Consolidated Fugitive Particulate Operating Program Contingency Measures Plan
4) Daily Water Logs from April 13, 2008 to April 24, 2008
5) Daily Water Logs for April 1, 2012 and April 15, 2012
6) Revenue Report by Product for December 2011
7) Water Cannon Inspection Forms for April 4, 2012 and April 19, 2012
8) Diesel Fuel Usage for 2012 for the generators and other equipment
9) Barge Moisture Samples for 2008
10) Barge Moisture Samples for 2012
11) Train Moisture Samples for 2008
12) Train Moisture Samples for 2012
13) Emission Control Summary Report for 2012
14) PLC reports for 2012
15) Site Plan

Figure 1: Coal pile with particulate emissions that was read at 15% opacity (but the picture does not correlate with that moment in time)

Figure 2: A conveyor going into a coal pile

Figure 3: Picture of a moveable conveyor

Figure 4: Conveyor to vessel with a large puddle, suggesting the Facility may have been overwatered

Figure 5: Railcar unloading area

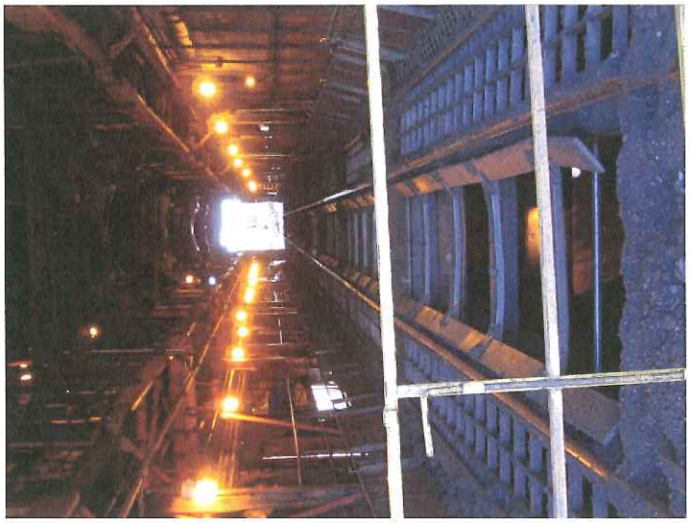

Figure 6: Holes in the top of the building over the railcar unloading

Figure 7: Coal particles on my hand after using the railing by the railcar unloading area

Figure 8: A water cannon spraying the property

Figure 9: View from a catwalk of the property with many large puddles

Figure 10: Smoke with 100% opacity coming off the Manitowoc (vessel being loaded with bulk materials)

Figure 11: Another view of the vessel being loaded with 100% opacity smoke