

US EPA ARCHIVE DOCUMENT



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March 6, 2015

**By Overnight and Electronic Mail**

George T. Czerniak  
Director, Air and Radiation Division  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60647

Nicole Cantello  
Attorney-Advisor  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60647

**Re: KCBX Terminals Company's Notice Regarding February 14, 2015**

Dear Mr. Czerniak and Ms. Cantello:

For over a year now, KCBX Terminals Company ("KCBX") has operated nine PM<sub>10</sub> site monitors. These monitors have recorded a total of 3,205 daily (24-hr average) PM<sub>10</sub> measurements within the KCBX fenceline (not in areas where the general public has access). 99.9% of the readings have been below 150 µg/m<sup>3</sup>. On Saturday, February 14, 2015, the North Terminal Southeast ("NT-SE") station recorded a 24-hour PM<sub>10</sub> monitor reading of 175 micrograms per cubic meter ("µg/m<sup>3</sup>"). Because the February 14<sup>th</sup> reading is unusual for KCBX's facilities, KCBX writes to notify you of the circumstances that existed on that day. As a preliminary matter, the 175 µg/m<sup>3</sup> reading occurred at only one monitor at KCBX's North Terminal, where KCBX intends to cease bulk material handling on or before June 30, 2015.

**February 14, 2015:**

February 14<sup>th</sup> was an extremely cold, high wind day, with an outside average temperature of 15.6° Fahrenheit, and sub-hourly wind data from Chicago Midway show that wind gusts exceeded 47 mph. On-site hourly average speeds reached 16 mph at the North Terminal. Gust speeds of 30 mph or higher occurred from about 8:00 AM to 4:00 PM. During this period, which coincides with elevated hourly PM<sub>10</sub> measurements at the NT-SE site, on-site wind speeds were consistently from the Northwest, ranging from 322 to 332°. Given this wind direction, the nearest residence downwind from the NT-SE monitor is about 300 yards from the KCBX fence line.

Consistent with its Fugitive Dust Plan, KCBX acted proactively. A few days prior to February 14, KCBX sealed the piles with surfactant and made water truck passes around the North Terminal. After doing so, KCBX did not move any material at the North Terminal, including not moving any product on February 14<sup>th</sup>. On that day, KCBX closely monitored the North Terminal site monitors for

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high readings and deployed employees to identify what, if any, on-site sources were potentially contributing dust to the NT-SE monitors. KCBX employees worked to prevent and address the potential for dust by operating and troubleshooting dust control equipment and monitoring the piles for emissions. At no time, did KCBX employees observe dust crossing the fence line. KCBX attempted to deploy its two rented on-site water trucks. One truck, serviced the day before and driven earlier in the day on February 14th, experienced a mechanical failure of the compressor due to the extreme cold outside temperatures; and the second truck became stuck in the process of being deployed.

The events on February 14, 2015 were highly unusual. As you know, since KCBX first deployed the PM<sub>10</sub> site monitors at the North and South Terminals, it has actively used them to assist in managing the potential for dust. Results of analyses performed on these data are summarized below:

- 88.5% (2,836) of the measurements are below 50 µg/m<sup>3</sup>;
- 98.8% (3,165) of the measurements are below 100 µg/m<sup>3</sup>; and
- 99.9% (3,201) of the measurements are below 150 µg/m<sup>3</sup>.

Monitoring data from February 14th in fact demonstrate the effectiveness of KCBX's fugitive dust program in that the NT-SE monitor is the only monitor at either the North Terminal or the South Terminal that had an unusual PM<sub>10</sub> reading.

**KCBX's On-Site Monitors Are Not Ambient Monitors:**

For the reasons set forth in our May 21, 2014 and June 11, 2014 letters (see attached), and in 40 C.F.R. Part 58, the KCBX monitors are not ambient air monitors as they are located in places within the KCBX fence line on private property to which the general public does not have access. See 40 C.F.R. § 50.1. Consequently, the National Ambient Air Quality Standards ("NAAQS") for PM<sub>10</sub> of 150 µg/m<sup>3</sup> (24-hour average concentration) is not applicable. Thus, the monitoring data is not an indicator of PM<sub>10</sub> levels in the ambient air in the surrounding neighborhoods and data from the KCBX source monitors are not an appropriate legal basis for determining whether there has been an exceedance of the NAAQS PM<sub>10</sub> or a violation of the provisions of the State of Illinois state implementation plan.

Further, previous analyses have shown that PM<sub>10</sub> concentrations decrease substantially with distance from the source, generally dropping by half within 100-200 yards downwind. Therefore, it is expected that the concentrations measured on-site would be well below the 24-hour PM<sub>10</sub> NAAQS at the nearest residence. Again, given the wind direction, the nearest residence downwind from the monitor with the 175 reading is about 300 yards away.

Please contact us should you have any questions or comments regarding this letter or the enclosed information.

Sincerely,

/s/ Adam M. Kushner  
Adam M. Kushner

George T. Czerniak  
Nicole Cantello  
March 6, 2015 letter

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March 6, 2015

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Enclosure

**ATTACHMENT A**

May 21, 2014

**By Overnight and Electronic Mail**

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Nicole Cantello  
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**Re: United States Environmental Protection Agency's Website Regarding Petroleum Coke in Chicago**

Dear Mr. Czerniak and Ms. Cantello:

I write to respectfully request that United States Environmental Protection Agency ("EPA") take immediate steps to modify legally incorrect statements made on the internet website at which EPA is posting monitoring data and other information provided by KCBX Terminals, Inc. to EPA both in response to EPA's November 15, 2013 Clean Air Act information request, and supplemental requests, and voluntarily.

The current website text provides:

EPA is now tracking the data to see whether *the NAAQS is exceeded* at any of the KCBX fenceline air monitors. *If NAAQS are exceeded*, EPA may use its statutory authorities to take action to maintain air quality.

EPA, Fenceline Air Monitoring at Pet Coke Storage Facilities, <http://www2.epa.gov/petroleum-coke-chicago/fenceline-air-monitoring-pet-coke-storage-facilities> (emphases added). This language indicates that a reading at one of the fenceline air monitors that is above the 150  $\mu\text{g}/\text{m}^3$  level set in the PM10 NAAQS would constitute an "exceedance" of the NAAQS. However, that is not an accurate statement of the law as set forth in EPA's regulations and accompanying preamble language.

EPA has promulgated rules regarding air quality surveillance in 40 C.F.R. Part 58. Appendix D to this Part provides siting criteria for air quality monitors, and indicates with respect to PM10 that monitors should be sited so as to gather data at scales that in fact capture public exposure to PM10 – primarily at the "middle scale" and "neighborhood scale" rather than "microscale" sites such as "fence line stationary source monitoring locations": "Although microscale monitoring may be

appropriate in some circumstances, the most important spatial scales to effectively characterize the emissions of PM<sub>10</sub> from both mobile and stationary sources are the middle scales and neighborhood scales. . . . Neighborhood scale PM<sub>10</sub> sites provide information about trends and compliance with standards because they often represent conditions in areas where people commonly live and work for extended periods.” 40 C.F.R. Part 58, Appendix D, § 4.6(b). This section further directs that where “fence line stationary source monitoring locations” are utilized for microscale monitoring, they should “be located near inhabited buildings or locations where the general public can be expected to be exposed to the concentration measured.” *Id.* § 4.6(b)(1). This siting criterion is consistent with EPA’s definition of “ambient air” as “that portion of the atmosphere, external to buildings, *to which the general public has access.*” 40 C.F.R. § 50.1 (emphasis added).

This regulatory language indicates that fenceline monitors such as those at the North and South Terminals, which are *not* located in places “where the general public can be expected to be exposed to the concentration measured,” are inappropriate for determining NAAQS compliance. Such a reading is fully borne out by EPA’s accompanying explanation in the Federal Register preambles to the proposed and final versions of 40 C.F.R. Part 58. EPA originally proposed a suitability test for monitor sites that would expressly bar the use of monitoring data from fenceline monitors in determining NAAQS compliance:

The fourth part of the five-part suitability test is a restriction against monitoring sites that are adjacent to a large emissions source or otherwise within the micro scale environment affected by a large source. This restriction is intended to help ensure that monitor siting is consistent with the intended stringency of the proposed NAAQS. . . . Monitors placed adjacent to coarse particle sources would typically measure higher ambient concentrations than monitors placed farther away. A PM<sub>10</sub>-2.5 monitoring site located adjacent to a high emitting industrial source or a heavily traveled highway, for example, might measure high ambient concentrations, but these concentrations could be characteristic only of the relatively small area around the monitor, notably a smaller area than in the case of a similarly sited PM<sub>2.5</sub> monitor. Even if there are people living or working at the monitor site, thus qualifying it as population-oriented, applying the proposed NAAQS level to the concentration level measured at such a monitor would be inconsistent with the level of community protection intended through the proposed NAAQS. . . .

The EPA therefore believes it is appropriate to have a restriction that PM<sub>10</sub>-2.5 monitors in source-influenced micro-environments, such as on facility fence lines or along the edge of traffic lanes, are not appropriate for comparison to the NAAQS even if there is some population subject to exposure in that location (even if EPA or the State believes that there are other microenvironments similarly affected by other sources of the same type). PM<sub>10</sub>-2.5 monitors placed in such microenvironment-types of situations thus would not be eligible for comparison to the NAAQS . . . .

71 Fed. Reg. 2710, 2738 (Jan. 17, 2006) (proposal). Although EPA did not adopt this suitability test in the final version of the Part 58 regulations due to its decision to establish separate PM<sub>10</sub> and PM<sub>2.5</sub> NAAQS rather than a single PM<sub>10</sub>-2.5 NAAQS, 71 Fed. Reg. 61,236, 61,239 (Oct. 17, 2006), the Agency maintained in the preamble to the final rule that “our goal nevertheless will be to locate PM<sub>10</sub>-2.5 monitors in a manner that satisfies an objective of the proposed rule, which was to focus most monitoring resources on population centers.” *Id.* EPA accordingly stated that, “if States and Tribes are considering deploying new PM<sub>10</sub> monitors, . . . EPA recommends that any new PM<sub>10</sub>

monitors be placed in locations that are reflective of community exposures at middle and neighborhood scales of representation, and *not in source-oriented hotspots* that are not population oriented.” *Id.* at 61,265 (emphasis added).

Based on the above regulatory provisions and related statements, we respectfully request that EPA correct the website language to reflect that data from the fenceline monitors at the North and South Terminals is not appropriate for determining whether a NAAQS exceedance has occurred.

Please contact us should you like to discuss this letter.

Sincerely,

/s/ Adam M. Kushner  
Adam M. Kushner

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**ATTACHMENT B**

June 11, 2014

**By Electronic Mail**

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Region 5  
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**Re: KCBX Terminals Company Response to June 3, 2014 Notice of Violation**

Dear Mr. Czerniak:

**Introduction**

I am writing on behalf of my client, KCBX Terminals Company, to provide this initial response to the United States Environmental Protection Agency's (EPA) June 3, 2014 notice of violation (NOV) which alleges violations of the Clean Air Act, 42 U.S.C. §§ 7401 *et seq.*, and the Illinois State Implementation Plan (SIP). We are looking forward to our proposed June 26<sup>th</sup> meeting to further discuss the issues contained in the NOV, but nevertheless thought it would be productive to provide our initial response to the NOV in advance of that meeting.

At the outset, we want to emphasize that KCBX remains committed to working with EPA to apply the best science to provide EPA and the public with the best information regarding air emissions associated with KCBX terminal operations. For this reason, KCBX has developed a state-of-the-art source air monitoring program that goes well beyond the scope of the air monitoring program required by EPA in its November 15, 2013 Clean Air Act Section 114 information request. In addition, on its own initiative, KCBX has retained world-renowned air quality and analytical sampling experts (the same experts that EPA has retained on multiple occasions) to secure their unvarnished opinions regarding community impacts, if any, from KCBX terminal operations. Those experts have analyzed and modeled the air monitoring data and have on two occasions collected extensive soil and dust sampling in the neighborhood. KCBX has shared all its data with EPA and in an April 22, 2014 meeting with EPA presented in detail KCBX's experts' findings that air emissions from the KCBX terminal sites were not impacting ambient air quality.

**Response to NOV**

We have reviewed the NOV and provide below detailed responses to EPA's core allegations. As explained below, EPA has fundamentally misinterpreted the data that serves as bases for its NOV. Accordingly, the facts alleged by EPA do not give rise to a violation of the federal Clean Air Act or the Illinois SIP.

**1. Paragraph 18 of NOV Alleges:**

KCBX submitted monitoring data to EPA for February 18, 2014 through May 10, 2014, which shows that on April 12, 2014, the northeast PM<sub>10</sub> continuous monitor at the North Terminal recorded a 24 hour average of 155 µg/m<sup>3</sup>, and on May 8, 2014, the northeast PM<sub>10</sub> continuous monitor at the North Terminal and the northeast PM<sub>10</sub> continuous monitor at the South Terminal each recorded a 24 hour average of 156 µg/m<sup>3</sup>.

**KCBX Response to Paragraph 18:**

**The majority of PM<sub>10</sub> measured on the referenced days originated from sources other than KCBX.**

- The readings referenced by EPA were recorded at only 1 of 9 source monitors on April 12, and at 2 of 9 source monitors on May 8.
- Although these monitors were oriented downwind of the piles on those two days, concurrent PM<sub>10</sub> concentrations at all of the other KCBX monitors were similar. The similarity of readings across all monitors, even monitors that would not have been affected by the piles on those days, is a strong indication of the effect of off-site sources.
- Moreover, observations of airborne dust from properties adjacent to the KCBX terminals site confirm the presence of other sources of particulate matter.

**2. Paragraph 19 of NOV States:**

The data from the meteorological station at the North Plant shows that the wind on April 12, 2014 was from the south to south southwest at an average 5.5 mph, and on May 8, 2014 was from the south southwest at an average 5.6 mph, blowing across the South Plant and the North Plant toward the North Plant northeast monitor, which recorded the two values exceeding 150 µg/m<sup>3</sup>. The data from the meteorological station at the South Plant shows that the wind on May 8, 2014 was from the south southwest at an average 6 mph, blowing across the South Plant toward the South Plant northeast monitor.

**KCBX Response to Paragraph 19:**

**Winds from these directions are consistent with off-site contributions from sources other than KCBX.**

- The fact that winds were from the south to southwest is important. Evaluation of the entire monitoring period (not just the two days cited by the EPA) shows that winds from the NW and south are consistent with offsite contributions of PM<sub>10</sub> from sources to the NW and south of the KCBX terminals, which include a cement plant, the Beemsterboer properties, a metal recycling facility, and other current or former commercial/industrial land uses.

- In its NOV, EPA misstates the average wind speeds for the two dates in question. On those two days, winds were generally from the south to southwest with an average speed of 5.5-6 meters per second (approximately 13 miles per hour), *not* 5.5-6 miles per hour.

### **3. Paragraph 21 of NOV States:**

On April 23, 2014, KCBX presented information to EPA about the ratio of vanadium to nickel (V:Ni) in the soil in the Chicago area and in petroleum coke. Specifically, KCBX informed EPA that the V:Ni in background soil is about 1 and in petroleum coke ranges from 4 to 12.

#### **KCBX Response to Paragraph 21:**

**The NOV incorrectly states that information KCBX provided at a meeting with EPA showed that the vanadium to nickel ratio in background soil in the Chicago area is “about 1.”**

- KCBX collected soil data and other measures of background levels of vanadium and nickel in soil in the Chicago area presented to EPA show average background V:Ni ratios of between 1.2 and 2.5, not 1.
- Data presented by KCBX to EPA confirm that a pet coke signature would be much higher than the ratios found by EPA – *i.e.*, in the range of 4.0, which EPA itself references in its NOV. This means that there is no signature for pet coke found by EPA in its wipe samples.

### **4. Paragraph 22 of NOV States:**

On May 20, 2014, EPA received results from the preliminary wipe sampling conducted on April 17, 2014. The wipe samples from five of the eleven locations sampled showed the presence of both vanadium and nickel, with V:Ni in excess of 1 in several instances.

#### **KCBX Response to Paragraph 22:**

**All of the V:NI ratios reported by EPA are well within the ranges determined by the United States Geological Survey and the State of Illinois (and confirmed by KCBX sampling) to represent background levels in urban areas of Chicago. Using either EPA's or the much more comprehensive study done by Dr. David MacIntosh of Environmental Health & Engineering, there is no evidence of pet coke or coal in the surrounding community.**

- Only one sample collected in the vicinity of KCBX North had detectable levels of both V and Ni (with a ratio of 1.0), which is consistent with background levels found throughout the Chicago area, and does not represent a signature for pet coke.
- Four samples collected in the vicinity of KCBX South had detectable levels of both V and Ni, with ratios of 0.7, 1.1, 1.4 and 1.7; these ratios are consistent with

background ratios of those compounds in the Chicago area, and as with KCBX North, none of those samples show a signature for pet coke.

- All of EPA's values of V:Ni are within the ranges of ratios seen previously in soil samples collected by KCBX, US Geological Survey (USGS) and incorporated into state Tiered Approach to Corrective Action Objectives (TACO) regulations; and
- None of the values measured by EPA were within the range of values measured for coal and pet coke samples from the KCBX facilities as presented to EPA, which show median V:Ni values of 3.8 and 3.5, respectively. The ranges were 1.9-9.4 for coal and 3.0-4.4 for pet coke.

#### 5. Paragraph 23 of NOV States:

The V:Ni at the sampling locations was highest at the location closest to KCBX and decreased as distance of the sampling location from KCBX increased.

#### KCBX Response to Paragraph 23:

There is *no* consistent evidence of higher V to Ni ratios closer to the KCBX Terminals. Both V and Ni were detected in only 5 of the 11 samples. Some sample locations closer to the KCBX terminals had lower concentrations of V and Ni than sample locations farther away from the terminals. Neither element was detected in 4 of the 11 samples, and V but not Ni was detected in 2 of the 11 samples, indicating that V and Ni levels were very low in those locations. The V:Ni relationship is indeterminate when one or the other element is non-detect. Thus, the relationship of V:Ni with distance asserted by EPA is actually interspersed with numerous samples when the element concentrations were so low that a ratio could not be determined.. Even if the relationship with distance asserted by EPA was correct, the important point is that all of EPA's ratios are well within the ranges determined by the United States Geological Survey and the State of Illinois (and confirmed by KCBX) to represent background levels in urban areas of Chicago.

- This statement can relate only to KCBX South since only 1 of the samples collected in the vicinity of KCBX North had detectable levels of both V and Ni, and the ratio of those values (1.0) reflected background.
- The highest ratio of 1.7 was found at sample 7A. But the adjacent sampling site and another site nearby on the same street (samples 4A and 5A) had V and Ni levels below detection. All three of these locations are approximately 70 m from the property line of the KCBX South site.
  - *These findings are consistent with V and Ni ratios at background levels (where measureable) and are consistent with a finding that the South Terminal is not a notable source of those metals.*

- Sample 8A was non-detect, and it is closer to the South Terminal than the site in sample 13A, which had detectable V and Ni (although the ratio was below background).
- Samples 10A and 11A were collected likely less than 30m apart from each other, and they show the greatest difference between any pair.

**KCBX's On-Site Monitors are Not Ambient Monitors**

For the reasons set forth in our May 21, 2014 letter, and in 40 C.F.R. Part 58, the KCBX on-site monitors cannot be ambient air monitors. The KCBX monitors are not located in "ambient air" because they are located within the fence line on private KCBX property to which the general public does not have access. To the extent EPA might assert that the monitoring data provides some indication of PM<sub>10</sub> levels in the ambient air in the surrounding ambient air, that data is not an appropriate legal basis for determining whether there has been an exceedance of the PM<sub>10</sub> NAAQS.

**Conclusion**

In summary, the allegations contained in the NOV do not establish violations of the CAA or the Illinois SIP. We are providing this information to you in advance of our proposed June 26<sup>th</sup> meeting, so that we can continue to productively discuss the meaning of the air monitoring and dust wipe sampling data taken to date and provide any necessary clarifications.

Thank you for your consideration of this additional information.

Sincerely,

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Adam M. Kushner

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cc: Nicole Cantello, EPA Region 5