February 7, 2014

Department of Public Health
Attn: Environmental Permitting and Inspections
333 South State Street, Room 200
Chicago, IL 60604

Re KCBX Comments to Proposed Rules and Regulations for the Handling and Storage of Bulk Material Piles

Pursuant to Chicago Municipal Code Section 2-112-160(b)(6), KCBX Terminals Company ("KCBX") hereby submits the following comments and attached materials for consideration by the City of Chicago, Department of Public Health with respect to the proposed regulations in Article II (Air Pollution Control Rules and Regulations) specifically related to the "Handling and Storage of Bulk Material Piles." KCBX is a business operator in the Chicago community that would be directly impacted by the proposed regulations.

KCBX has a long history in Chicago. We have handled bulk materials, including petroleum coke, on Chicago's southeast side for more than 20 years. We employ 40 people fulltime, and we have also provided work for a number of local contractors.

KCBX has always worked hard to maintain a safe operation and follow all rules and regulations. We very much value the community and are committed to doing the right thing. We look forward to working with the City on making sure our operations remain in compliance and that businesses such as ours may continue to be part of the local economy and commerce in Chicago. Unfortunately, the regulations as currently written threaten to make it impossible for KCBX to operate in Chicago. KCBX outlines its concerns in these comments and asks the Department and City to engage constructively about how to address these concerns.

In these comments, KCBX summarizes:

(A) the absence of any identified risk posed by KCBX and the pet coke it handles;

(B) the extensive safeguards and testing KCBX is already implementing to address the concerns that have been raised;

(C) specific revisions that KCBX asks be made to any ultimate regulation (if one is deemed necessary) and the practical and operational concerns that necessitate those revisions; and

(D) the legal objections KCBX would have to the regulations as proposed, absent our suggested revisions.
A. KCBX & PET COKE POSE NO IDENTIFIABLE THREAT

1. Background on KCBX & Pet Coke

KCBX currently operates two coal and petroleum coke transfer facilities in Chicago located along the Calumet River between East 100th Street and East 110th Street. While KCBX has operated its North facility in Southeast Chicago for more than 20 years, it acquired the South facility in December 2012.

Petroleum coke or “pet coke” is a valuable product intentionally produced as part of the process of refining crude oil. Pet coke has many uses, including energy generation and the production of cement, steel, aluminum, and other specialty products. Notably, pet coke has been used and handled safely for decades. It is a bulk material that is used domestically, as well as internationally, and shipped from ports all around the world, including right here in Chicago. KCBX receives pet coke at its facilities in Chicago from various states, including Indiana, Wyoming, Kansas, and Minnesota, as well as from Illinois, before that material is shipped to other states and other countries.

2. August 30, 2013 Event & KCBX’s Sampling Results

The proposed regulations appear to grow out of concerns the community voiced after a wind storm on August 30, 2013.¹ This wind storm apparently blew a dust cloud over the neighborhood east of KCBX’s South facility. The wind storm occurred less than a year after KCBX acquired its South facility, and when the storm occurred, KCBX was in the process of implementing improvements to the site, including installing a new dust-suppression system. That dust-suppression system is now operating at the South facility but was not operational when the wind storm occurred. Instead, at that time, KCBX was operating the system that had been in place at the South facility before KCBX acquired it.

KCBX understands that the wind storm generated concern among the residents surrounding its facilities about whether dust from pet coke and coal might be impacting their homes and neighborhoods. In light of those concerns, KCBX wanted to better understand whether its products were in fact escaping to the community in which it operates. KCBX worked with Dr. David MacIntosh, ScD, CIH, Chief Science Officer with Environmental Health & Engineering, Inc. Dr. MacIntosh is also an adjunct professor at the Harvard School of Public Health, a technical advisor to government agencies and the World Health Organization, and a leading authority and author of numerous publications in the area of exposure assessment, risk analysis, and environmental management. Dr. MacIntosh directed comprehensive soil and surface sampling across the area around the KCBX facilities in order to determine the levels, if any, at which signature components of pet coke and coal might be present. The results of that sampling are being submitted along with these comments to the proposed regulations. They establish that

¹ Local Chicago news reported that wind gusts were up to 70 miles per hour. The storm brought down trees and caused power outages and transportation delays throughout the city. See, e.g., http://articles.chicagotribune.com/2013-08-31/news/ct-met-severe-weather-metra-20130831_1_metra-trains-metra-website-tom-miller.
none of the soil or surface samples show elevated levels of substances in ratios associated with pet coke or coal. KCBX hopes this will help address the concerns of its neighbors, and it remains willing to conduct additional testing to ensure its neighbors are safe.

3. **Scientific Studies Confirm That Coal and Pet Coke Dust Pose Little Risk to Human Health**

Even setting aside the results of KCBX’s sampling in the neighborhoods around its facilities, it is important to note that fugitive pet coke dust poses little risk to human health and safety. Reports by the United States Environmental Protection Agency (“US EPA”) and Congressional Research Service² ("CRS"), submitted herewith, have concluded that pet coke has not been associated with any inhalation-related mortalities or any reproductive or developmental effects. (US EPA page 11, CRS page 9.) The US EPA and CRS reviewed studies finding that pet coke is not carcinogenic via inhalation. They also found that pet coke is not an identified mutagenic or prone to inducing chromosomal aberrations during *in vivo* toxicity testing. (US EPA page 12, CRS pages 9-10.) In other words, the summary reports from US EPA and CRS indicate that airborne particulate matter from pet coke dust poses little risk to human health.

According to CRS, “only animal cases studies of repeated-dose and chronic inhalation have shown respiratory inflammation attributed to the non-specific effects of dust particles rather than the specific effects of pet coke.”³ With respect to “Human Health Effects,” CRS concluded that “[m]ost toxicity analyses of pet coke, as referenced by EPA, find it has a low health hazard potential in humans, with no observed carcinogenic, reproductive, or developmental effects.” *Id.* at 9.

With few exceptions (most notably, certain ports in California), pet coke is typically stored in open-air piles. That is similar to how other non-toxic industrial and agricultural bulk materials not affected by the elements (rain, excessive heat/cold, pests, etc.) are typically stored. To date, no discernible risk to health and/or the environment has been identified to warrant special regulation of piles of pet coke as distinct from any other piles. Again, according to CRS and US EPA, pet coke has “low potential to cause adverse effect[s] on aquatic or terrestrial environments.” *Id.* at 9. CRS further noted that “[m]ost chemical analyses of pet coke, as referenced by EPA, find it to be highly stable and non-reactive at ambient environmental conditions.” *Id.* at 8. And the CRS added that “If released to the environment, pet coke would not be expected to undergo many of the environmental fate pathways which could lead to environmental risks.” *Id.*

Collectively, the data indicate that pet coke is not associated with a high level of hazard based on

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² As explained on the website for the Library of Congress, “[t]he Congressional Research Service (CRS) works exclusively for the United States Congress, providing policy and legal analysis to committees and Members of both the House and Senate, regardless of party affiliation. As a legislative branch agency within the Library of Congress, CRS has been a valued and respected resource on Capitol Hill for nearly a century.” [http://www.loc.gov/crsinfo/](http://www.loc.gov/crsinfo/).

toxicological testing. Indeed, available toxicological data generally indicate a low level of hazard following inhalation and dermal exposure in animals (and animal models); petroleum coke was not found to cause overt mortality, developmental/reproductive toxicity, genotoxicity, mutagenicity, or carcinogenicity following repeated exposures. Adverse effects were generally limited to pulmonary inflammation and associated effects in the respiratory system (e.g., abnormal pulmonary function tests) following repeated and chronic excess exposure via inhalation. These types of respiratory effects are commonly associated with excess exposures to dusts generally, and are not particular or specific to pet coke dust. Nor is there any evidence that the excess and chronic exposures needed to induce these respiratory effects are present in the areas surrounding KCBX's facilities.

The mineral content of dust associated with coal depends on the particle size of the dust, the coal seam, and the method in which the coal was mined. American Conference of Industrial Hygienists ("ACGIH"), 2001, Coal Dust, ACGIH:1-10. The International Agency for Reach on Cancer ("IARC") has classified coal dust as a Group 3 compound – cannot be classified as to its carcinogenicity to humans – based on inadequate evidence in both humans and experimental animals. IARC, 1997. Also, in 1982, the National Institute for Occupational for Safety and Health ("NIOSH") published a Health Hazard Evaluation evaluating exposures at a power plant station in Pennsylvania, concluding that coal handlers were no more likely to have bronchitis, wheezing or asthma, or elevated blood pressure than other employees. NIOSH, 1982. A study of opencast mining workers found that occupational exposures were not sufficient to cause important reductions in lung function or increased frequency of chronic bronchitis, nor were such exposures positively associated with asthma symptoms (though a small increased risk of pneumoconiosis among high exposure occupations, i.e., dustiest preproduction jobs, was observed). Love et al., 1997 and NIOSH, 2011. And evaluation of available British studies shows little evidence of an association of chronic health effects, including respiratory illnesses and asthma severity associated with living near opencast mine sites. Temple and Sykes, 1992; Pless-Mulloli et al, 2000; Pless-Mulloli et al., 2001. Thus, adverse effects associated with

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coal dust generally follow repeated and chronic excess exposure via inhalation. And, again, there is no evidence that the excess and chronic exposures to coal dust needed to induce these effects are present in the areas surrounding KCBX's facilities.

KCBX does not dismiss the public's concern with preventing potential emissions of airborne particulate matter. To the contrary, KCBX takes care in striving to address the potential for those emissions, as described further below. Because the potential risks associated with airborne particulate matter from pet coke and/or coal to human health and the environment are at most very limited, however, any proposed regulations should be tailored commensurate with the actual risks at issue. See CRS at 8 ("If released to the environment, pet coke would not be expected to undergo many of the environmental fate pathways which could lead to environmental risks.").

B. EXTENSIVE SAFEGUARDS ARE ALREADY BEING IMPLEMENTED BY KCBX, WHICH SHOULD AT LEAST BE PERMITTED TO PROVE THEIR EFFECTIVENESS

In addition to the minimal nature of any risk, KCBX urges the City of Chicago, Department of Public Health and Chicago residents to consider the safeguards KCBX already has implemented at its facilities to guard against potential emissions. Those systems and practices implemented by KCBX vigilantly guard against risk from potential emissions of airborne particulate matter.

1. KCBX's Extensive Safeguards & Best Practices

KCBX has extensive safeguards in place at both its North and South facilities. These safeguards include an array of dust control best management practices including water cannon sprays, water trucks, weather monitoring, pile management and grooming, surfactant and encrusting agent addition, spray bars on conveyor transfer points, truck wheel washes, and suspending operations during high winds.

- Water Cannon Sprays — At the South facility, storage of coal and pet coke is closely managed both by trained employees and by a computer-enhanced dust-suppression system. The dust-suppression system consists of 42 water cannons that are capable of distributing up to 1,800 gallons per minute of targeted water in order to manage the potential for airborne particulate matter. The system is also equipped with state-of-the-art software that uses real-time weather data, including barometric pressure and wind speeds to focus the dust-suppression efforts. As noted above, this system was not yet operational when the wind storm occurred on August 30, 2013; however, the system was fully operational for the November 17, 2013 event during which there were no observations of dust leaving the sites (see discussion below).

Similarly, at the North facility, KCBX utilizes 19 water cannons that are capable

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of distributing up to 600 gallons per minute of targeted water. The water cannons at both facilities have automated controls that allow for programmed sequencing. Both the North and South facilities also use trained employees to closely monitor the piles and the dust-suppression systems.

Additionally, both the North and South facilities use the following to supplement their respective dust-suppression systems:

- **Water Trucks** — Mobile water trucks are used to supplement the cannon sprays. Operators target water application from the trucks to areas that may need additional control and adjust such water application as necessary to further mitigate the potential for dust emissions.

- **Weather Monitoring** — KCBX employees proactively monitor weather forecasts and apply water to and/or seal piles and/or cease operations in advance when high winds are predicted.

- **Pile Management and Grooming** — Storage piles are shaped and compacted to manage the potential for wind erosion.

- **Surfactant and Crusting Agents** — Commercial surfactants and encrusting agents are applied to the surface of inactive piles to decrease the potential for dust emissions. Surfactants increase the ability of water to adhere to dust particles. Crusting agents create a surface seal.

- **Spray Bars on Fixed Conveyor Transfer Points** — Water spray bars are mounted at fixed conveyor transfer points, applying water to suppress potential dust that might be created as product is transferred from one conveyor to another.

- **Truck Wheel Washes** — Truck wheel wash systems are in place to remove loose debris from trucks/tires prior to exiting the terminal.

- **Street Sweeping** — KCBX routinely sweeps the facilities and surrounding streets during truck loading operations.

- **Suspending Operations During High Winds** — Vessel and barge loading operations are suspended if wind speeds exceed 40 mph. Also, if employees observe dust from a specific activity, even at wind speeds below 40 mph, that activity is ceased until the dust can be effectively managed.

Beyond all of these measures, KCBX is implementing an air-monitoring program at both its North and South facilities, approved by the US EPA, which can demonstrate the effectiveness of the current systems and procedures. This air monitoring program goes above and beyond what the US EPA initially requested, as KCBX chose to install additional supplemental air monitors in order to generate even better data.

Moreover, existing ambient air conditions support the conclusion that KCBX’s dust suppression
efforts are working. The US EPA has determined that the area in which KCBX's facilities are located is in attainment for both PM10 and PM2.5. Specifically, in 2005, US EPA designated the Lake Calumet (Southeast Chicago) area as attainment for PM10. 70 Fed. Reg. 55545 (Sept. 22, 2005). Likewise, in 2013, USEPA designated the area as attainment for the 1997 PM2.5 standard. 78 Fed. Reg. 60704 Oct. 2, 2013). This federal determination, in response to requests from Illinois EPA, demonstrates that the air in the area is meeting the National Ambient Air Quality Standards and that no issue exists.

It appears the proposed regulations seek to reduce and prevent windborne fugitive dust from outdoor pet coke and coal storage piles. Far from being unique to pet coke and coal, however, the potential for fugitive dust is common in many industrial, construction, and agricultural activities. Accordingly, various environmental agencies, including US EPA, have issued recommendations for managing the potential for fugitive dust. KCBX currently employs the very techniques US EPA recommends, including but not limited to its multi-million-dollar dust-suppression systems. Just at the South KCBX terminal in Chicago, installation of the water cannons and system associated with them required an investment of $10 million, which installation occurred after KCBX acquired the facility in December 2012. In sum, the rigorous steps KCBX has taken are themselves sufficient to address the potential for dust dispersion from pet coke and coal.

2. Existing Measures Should Be Studied & Any Perceived Deficiency Identified Before New Regulations Are Imposed

If the City now prescribes a new regulatory regime by, for instance, requiring separate construction of entirely new enclosures, then all of the burdens and expense KCBX has already taken on to address the potential for dust, at the cost of many millions of dollars, would be for naught. Most obviously, the multi-million-dollar water cannons and state-of-the-art system that KCBX has installed to manage its outdoor piles would effectively be rendered obsolete by the requirement that virtually all of the piles be entirely covered. To disregard KCBX's investment and insist that KCBX multiply that investment without first analyzing the effectiveness of existing safeguards would send a bad message to business in Chicago — namely, that their investments are not safe and that efforts they undertake at their own initiative to protect their communities will not be credited. At the very least, therefore, the City and Department should identify any specific deficiencies it perceives as occasioning concern before requiring KCBX to replace its extensive dust-suppression measures now in place with new and costly enclosures. In this regard, the sampling results that KCBX here submits, as well as those KCBX will gather in conjunction with the US EPA, deserve to be considered.

As previously noted, KCBX South's current dust-suppression system was not in place on August 30, 2013. The new system was in place and operational, however, when another wind storm occurred on November 17, 2013. The new system (as well as the system at the North facility) worked as designed, without any observations of dust (particulate matter) leaving the sites.

11 The November 17th storm was a severe wind event that included tornadoes throughout the state and caused a two-hour delay of the Chicago Bears game.
The KCBX North facility, located on the west side of the Calumet River at East 100th St. has handled bulk products, including pet coke, for more than 20 years without adverse impact on the environment. The South facility, located on the east side of the river at South Burley, was acquired in 2012 and has benefitted from a recent $30 million investment, including the $10 million state-of-the-art dust-suppression system. KCBX requests that the public-comment period be extended long enough to allow the City to consider the air-monitoring data that will be collected. KCBX invites representatives of the Department to visit KCBX’s facilities so that they can observe for themselves the safeguards that are in place and how effective they are.

C. REVISIONS WOULD NEED TO BE MADE TO ANY ULTIMATE REGULATION

In the event that the Department of Public Health denies KCBX’s request to extend the public comment period to allow KCBX to demonstrate the sufficiency of its current dust-suppression systems and decides it is necessary at this time to impose additional regulations, KCBX suggests that the attached revisions be made to the proposed Regulations. The revisions seek to: (1) clarify applicable definitions and establish clear performance criteria; (2) modify requirements that are not attainable based upon currently available technologies and equipment and/or which do not provide a prudent cost/benefit; and (3) provide sufficient time for companies covered by the regulations to comply with their requirements without having to cease operations or relocate outside Chicago.

Absent revisions to the proposed regulations, several portions of the regulations would effectively ban storage of pet coke and coal and KCBX’s business surrounding same, including the following:

- The required distance for setbacks from public ways is not something KCBX can physically accommodate – it would mean that KCBX’s facilities cannot border roads or the river. Without amendment, this requirement would effectively force the closure of our facilities, as they could neither receive nor ship material.

- The restrictions on handling materials when wind conditions are greater than 15 miles-per-hour would also effectively prevent us from operating. This is because – according to weather data from the last couple years – the average wind speed in Chicago exceeded 15 mph approximately 40 percent of the time.

- The Fugitive Dust/Opacity requirements are not attainable for outdoor storage by any bulk-material handler. The proposed regulation uses a measurement technique that is more stringent than the most stringent opacity requirement enacted by the State of Illinois.

- The proposed caps on the quantity of material that can be received or shipped out over a five-day period, and the quantity of material that can be present on-site at any one time, would reduce KCBX’s capacity by 90% to 95%. KCBX cannot sustain a business with these severe limitations.

Further, the proposed regulations require compliance with certain aspects immediately upon enactment of the regulations, which would be impossible to do. KCBX would be forced to cease
operating until it was able to comply with those portions of the new regulations.

These are examples of the requirements in the proposed regulations that act as a ban on KCBX’s business. KCBX requests the opportunity to discuss with the Department of Public Health each of the proposed revisions to the regulations and the logistical problems that drive them.

D. KCBX OBJECTS TO THE PROPOSED REGULATIONS AS CONTRARY TO LAW

Finally, while engaging constructively to address pollution concerns and to arrive at a workable approach, KCBX must note that we have concerns about the legality of the regulations as proposed. As explained in these comments, the regulations as proposed would go beyond any reasonable measures in demanding that KCBX do the impossible and incur prohibitive risk and expense in a futile effort to comply. In that sense, the proposed regulations would amount to a flat ban against KCBX’s existing business. Accordingly, were KCBX to be subjected to these regulations without modification, its only recourse would be to challenge it in court as violating the United States Constitution as well as Illinois law (or else simply to shut down its operations in Chicago).


First, to the extent that local businesses (using the same “bulk solid waste” for construction or demolition) are specially exempted from the regulations, as they appear to be, any such express discrimination or gerrymander would be subjected to the strictest scrutiny and struck down accordingly. *Bacchus Imports, Ltd. v. Dias*, 468 U.S. 263, 271 (1984); *Government Supplies Consolidating Services, Inc. v. Bayh*, 975 F.2d 1267 (7th Cir. 1992).

Moreover, the regulations by their terms target instrumentalities of commerce – particularly trucks, railcars, and barges – whereby pet coke and coal travel through Chicago and into neighboring states. Indeed, some of these regulations have explicit extraterritorial effect insofar as they require out-of-state entities to comply with Chicago’s vehicle tarping regulations lest the Chicago facilities be obliged to reject the shipment. And, under the auspices of preventing pollution, the regulations insist upon controls that are not technologically or practically available (and that seem gratuitous relative to other safeguards separately in place). By preventing pet coke and coal from entering or leaving the State through an essential hub, the regulations further offend the Commerce Clause. *Kassel v. Consol. Freightways Corp. of Delaware*, 450 U.S. 662 (1981) (plurality).

Finally, it is clear that the proposed regulations would cut off the existing flow of pet coke and coal from KCBX’s facilities in Chicago to other states and other countries. KCBX’s facilities in Chicago function as an essential waystation for pet coke and coal produced out-of-state and ultimately destined for sale to other states as well as international destinations. The proposed
regulations threaten to significantly disrupt this cross-border commerce. By raising costs on goods traveling through the Chicago hub, those who reside outside of Illinois – and thus have no say in the passage of legislation – will be forced to bear the financial burden. The rules may even force those involved with transporting pet coke to route around Illinois at their own expense. Certainly closing off Chicago to pet coke and coal, as the regulations threaten to do, amounts to cutting off the interstate flow. At the very least, therefore, a court would need to balance the profound burdens the regulations impose on interstate commerce against its supposed benefits. *Pike v. Bruce Church*, 397 U.S. 137 (1970). Given the proposed regulations' dramatic excesses and their demonstrable disconnect from the goal of suppressing pollution, the regulations would clearly fail any such balancing, as we read relevant precedents. *See Midwest Title Loans, Inc. v. Mills*, 593 F.3d 660, 665 (7th Cir. 2010); *Government Supplies Consolidating Services, Inc. v. Bayh*, 975 F.2d 1267 (7th Cir. 1992); *Burlington N. R. Co. v. State of Neb.*, 802 F.2d 994 (8th Cir. 1986). Again, the regulations as proposed would impose provisions that effectively ban KCBX from shipping pet coke and coal interstate – despite the availability of (i) scientific evidence establishing the absence of any identified risk to health or safety, (ii) multi-million-dollar, state-of-the-art dust suppression system, and (iii) air monitoring that would detect fugitive emissions,

For similar reasons, we believe that regulations would also violate Illinois law, which requires that any such city ordinance not be arbitrary or unreasonable. *Village of Algonquin v. Village of Barrington Hills*, 254 Ill.App.3d 324 (1993). Recognizing that Illinois law affords the City due discretion to arrive at a reasonable regulation, KCBX is glad to engage about the form any such reasonable regulation might take in this instance. As proposed, however, the regulations would go far beyond what is reasonable. Without belaboring all of the concerns set forth above, it should be emphasized that:

- these regulations would impose a new, onerous regulatory regime for materials that pose, at most, a low risk to human health according to scientific literature and studies;

- these regulations would impose their new, onerous regulatory regime without regard for the battery of state-of-the-art safeguards that KCBX has already put in place (at great expense) in order to guard against escape of the materials at issue, without consideration of on-point proof that the materials are being safely contained, and without so much as a pause to await air monitoring US EPA has approved to detect ensuing emissions; and

- these regulations would go even beyond requiring the construction of new, costly enclosures, by further insisting upon a timetable, setbacks, and gratuitous additional measures that are altogether impracticable and would together operate as a total ban on KCBX's underlying business, no matter how hard KCBX may be willing to work or how much it may be willing to spend in attempting to comply.

Regulating in this fashion would not be a fair or lawful exercise of the City's home-rule authority.
KCBX appreciates the City of Chicago, Department of Public Health's consideration of these points. We look forward to working further with the City to address community concerns while preserving the ability of bulk material operators such as KCBX to continue doing business and providing employment in Chicago.

By: _____________________________
    Dave Severson
    President
    KCBX Terminals Company

Date: 2/7/14