

September 2, 2014

City of Chicago, Department of Public Health  
Attn: Environmental Permitting and Inspections  
333 South State Street, Room 200  
Chicago, IL 60604  
EnvComments@cityofchicago.org

SENT BY EMAIL AND FEDERAL EXPRESS

Re: NRDC, SETF, Environmental Law and Policy Center, Faith in Place,  
Respiratory Health Association of Metropolitan Chicago, Sierra Club, Illinois  
Chapter, and Southeast Side Coalition to Ban Petcoke Comments on KCBX  
Terminals Company's Petition for Variance

To Whom It May Concern:

Thank you for the opportunity to comment on the petition of KCBX Terminals Company for variances from the Department of Health's Rules and Regulations for Control of Emissions from the Handling and Storage of Bulk Material Piles ("Rules"), dated June 9, 2014 ("Variance Petition") and noticed June 17, 2014.<sup>1</sup> While they are not formally at issue during this comment period, we also present our views on KCBX's Enclosure Plan<sup>2</sup> and Fugitive Dust Plan,<sup>3</sup> both of which require approval by the Department of Public Health ("Department") and are by nature

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<sup>1</sup> KCBX Terminals Company's Petition for Variance, *available at* [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/VarReqKCBXTerCo3259E100th10730SBurleyAve.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/VarReqKCBXTerCo3259E100th10730SBurleyAve.pdf); City of Chicago, Dep't of Pub. Health, Rules and Regulations for Control of Emissions from the Handling and Storage of Bulk Material Piles [sic], *available at* [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/DoHRRRegCntrlEmiHdlin gStrgeBulkMaterPiles4302014.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/DoHRRRegCntrlEmiHdlin gStrgeBulkMaterPiles4302014.pdf); City of Chicago, Dep't of Pub. Health, Notice of Variance Application (June 17, 2014), *available at* [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/NoticeVarAppSolicitationWrittenComKCBXTerminals.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/NoticeVarAppSolicitationWrittenComKCBXTerminals.pdf) (public comments accepted through July 17, 2014). The City extended the time for public comment on KCBX's Variance Petition and other pending variance requests until September 2, 2014, following a request for an extension by NRDC and SETF. *See* Notice of 30-Day Extension of Comment Period for Five Variance Applications, City of Chicago, Dep't of Pub. Health, *available at* [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/NotExtComVarianceAppKCBXTerminals7142014.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/NotExtComVarianceAppKCBXTerminals7142014.pdf).

<sup>2</sup> KCBX Terminals Company, Enclosure Plan for KCBX Terminals Company, Chicago Facility, Revision – IR, released June 9, 2014.

<sup>3</sup> KCBX Terminals Company, Fugitive Dust Plan, KCBX Facility, Revision – IR, released June 9, 2014.

connected to the Variance Petition. We submit these comments on behalf of the Natural Resources Defense Council (“NRDC”) and our nearly 10,000 members and activists in the City of Chicago, including those who reside on the Southeast Side in the Calumet area; the Southeast Environmental Task Force (“SETF”), an active community group dedicated to improving the Calumet neighborhood’s environment; the Environmental Law and Policy Center; Faith in Place; the Respiratory Health Association of Metropolitan Chicago; Sierra Club, Illinois Chapter; and the Southeast Side Coalition to Ban Petcoke, a grassroots community organization focused on promoting environmental justice and protecting the health and wellbeing of the residents and communities on Chicago’s Southeast Side.

Given the mounting evidence that the KCBX Terminals are violating numerous City, state, and federal requirements, the City should not only deny KCBX’s requested variances and reject its Enclosure Plan and Fugitive Dust Plan, but also should revoke KCBX’s certificates of operation because the terminals “operate in a manner that is . . . detrimental to public health or safety, or to the environment.”<sup>4</sup> At minimum, because KCBX’s various proposals would perpetuate the ongoing harm to the surrounding community, the Commissioner and Department must deny the Variance Petition and reject the Enclosure Plan and Fugitive Dust Plan.

The City should view KCBX’s submissions with the highest level of scrutiny given the heavy burden that the company bears under the Rules and in light of community complaints, the ongoing legal proceedings against the company, and the mounting evidence of the sites’ ongoing pollution of surrounding neighborhoods. Concern about pollution from the KCBX sites was one of the main drivers behind the City’s adoption of the Rules, making the company’s attempts to sidestep these requirements—and continuing claims that their current practices suffice to protect the community—particularly disturbing. The U.S. EPA’s Notice of Violation over recent particulate pollution from both terminals is evidence that these facilities continue to be a burden on the surrounding area despite the controls that KCBX claims to be using.

Given this background, and for the reasons set forth below, the Variance Petition is incomplete and fails to show that the requested variances will not have an adverse impact on the community and environment. Thus, KCBX has failed to meet its burden and the Commissioner should deny its requests. KCBX is essentially trying to refile arguments over the Rules’ scope that it lost during the Rules’ development, without providing any additional, site-specific information to justify the special treatment it seeks and with the evidentiary case showing its impacts on the community growing. For similar reasons, the Commissioner should not approve KCBX’s Enclosure Plan or Fugitive Dust Plan.

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<sup>4</sup> Chicago Municipal Code § 11-4-670(a)(1); *see id.* §§ 11-4-660, 11-4-030(c); Rules at Section 3.0(1).

## I. Impacts of Industrial Dust Pollution on City Residents and the Environment

Earlier this year, the City adopted the new Rules to address the problem of harmful dust pollution from industrial sources. Dust pollution can cause permanent harm to people's lungs, significantly limit the uses and enjoyment (and so market values) of private property as well as public parks, and inhibit the growth of plants and wildlife.<sup>5</sup> The City's action provided a much-needed update to the City's existing measures to combat dust.

We continue to believe that the Rules are too lax in some areas; however, they represent a significant step forward in providing increased protections to Chicago communities. Moreover, as set forth below in more detail, we expressed in our prior comments a high level of concern with allowing variances from the Rules, and so believe it is imperative that the Commissioner stringently assess variance applications in accordance with the standards set forth in the Rules. This holds tenfold for KCBX, given the citizen complaints, allegations contained in pending lawsuits, and notice of violation against the company.

We take exception with KCBX's repeated references to its investments in the South Terminal as demonstrating its commitment to operating responsibly and as grounds to let the company off the hook from the Rules' obligations. KCBX likely is well aware that enclosure of piles, conveyors and transfer points is an available way to minimize fugitive dust. Indeed, KCBX cites in its Enclosure Plan a covered petcoke transfer building "in use today by a KCBX affiliate."<sup>6</sup> This transfer building appears to be located at Koch Carbon's Pittsburg, California site in the San Francisco Bay area, based on aerial images on Google Maps and other photos available on the internet. These images and photos show a site operating with enclosed piles, enclosed conveyors, and enclosed ship loading.<sup>7</sup> In 2008, Tesoro Corp. contracted with Koch Carbon to have petroleum coke from its Martinez refinery shipped out of Koch Carbon's facility, following pressure from the city to close Tesoro's own open pile storage and transfer site due to black dust blowing into the surrounding area.<sup>8</sup>

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<sup>5</sup> Comment Letter from NRDC et al. to City of Chicago, Dep't of Pub. Health ("Comments") at 3-7, *available at* [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/PetCoke\\_Public\\_Comments/NRDC\\_SETF\\_Alliance\\_for\\_the\\_Great\\_Lakes\\_ELPC\\_Faith\\_in\\_Place\\_RHAMC\\_and\\_Sierra\\_Club\\_Recvd\\_2-7-14.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/PetCoke_Public_Comments/NRDC_SETF_Alliance_for_the_Great_Lakes_ELPC_Faith_in_Place_RHAMC_and_Sierra_Club_Recvd_2-7-14.pdf).

<sup>6</sup> Enclosure Plan at 9.

<sup>7</sup> *See, e.g.*, James K. Glassman, *Market-Based Man*, Philanthropy Roundtable, fall 2011 (photograph of "transfer facility in the San Francisco Bay area"), *available at* [http://www.philanthropyroundtable.org/topic/excellence\\_in\\_philanthropy/market\\_based\\_man](http://www.philanthropyroundtable.org/topic/excellence_in_philanthropy/market_based_man) (attached as Exhibit A).

<sup>8</sup> Jessica Saunders, *Tesoro wins contract to ship petroleum coke from Pittsburg to China's Sinochem*, S.F. Business Times, July 13, 2008, *available at* <http://www.bizjournals.com/eastbay/stories/2008/07/14/story10.html?page=all> (attached as Exhibit

KCBX bought the South site from DTE Chicago Fuels Terminal, LLC and began its extensive expansion plans in 2012, at a time when the Pittsburg site had been operating in this enclosed fashion for years, facilities in Los Angeles were required to enclose operations because of the impacts of particulate matter ten microns or less in diameter (PM10) on communities, and other facilities across the country were proposing to fully enclose their bulk handling operations.<sup>9</sup> Rather than develop a plan for its new site acquisition that would employ similar measures within a reasonable time, KCBX affirmatively chose to leave its piles open and use a spray system, despite the site's proximity to residential neighborhoods and public parks. This conscious business decision to forego a more protective dust control system in order to lower its costs and increase its throughput should not be given credit in the Commissioner's and Department's review.

## **II. The City Should Reject KCBX's Unacceptably Vague Enclosure Plan Because It Does Not Provide For Full Enclosure Within Two Years**

KCBX outlines in its June 2014 Enclosure Plan a timeline of approximately *four years* between the Rules' adoption and when the required storage pile and truck/rail loading and unloading enclosures would be fully operational. This is unacceptable given the harm to the community that may occur during this extended time period. Notably, KCBX does not even commit to this hugely expanded timeframe, but states that its project schedule is "tentative" and that "the overall timeline is subject to change."<sup>10</sup> Accordingly, and for the additional reasons

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B); *In the Black*, Discovery: The Quarterly Newsletter of Koch Companies, Apr. 2008, available at <http://www.kochind.com/files/DiscoveryApril2008.pdf> (attached as Exhibit C).

<sup>9</sup> See, e.g., Air Contaminant Discharge Permit Application, Coyote Island Terminal, LLC, Bulk Transloading Facility, Port of Morrow – Boardman, Oregon (July 26, 2012) (figure 3 displays plan for enclosed storage and conveyors), available at <http://www.deq.state.or.us/er/docs/CoalExportProject/ACDPApplicationCoyoteIslandTerminal2.pdf> (attached as Exhibit D). Our reference to this application is meant solely to highlight that enclosure of bulk materials transloading operations was an option available to KCBX when it purchased the South site, and not to express any approval or endorsement of the emission estimates and specific proposals contained in the application.

<sup>10</sup> Enclosure Plan at 4. In its comments on the proposed rules, KCBX proposed that the Commissioner allow companies to exceed a three-and-a-half-year schedule for enclosure only based on factors beyond a company's control, e.g., permitting delays or natural disasters. See "February 7, 2014, KCBX Proposed Revisions to Proposed Chicago Bulk Material Ordinance," at 11, available at [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/KCBX\\_Atachment\\_3.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/KCBX_Atachment_3.pdf) (labeled as KCBX Attachment 3 on the City's website). While we find the proposed base schedule unacceptable as expressed in these comments, we agree with the premise that extensions beyond the enclosure deadline should be allowed only for circumstances beyond the company's control.

discussed below, if the City allows KCBX to continue operating, it should deny the Enclosure Plan and require KCBX to submit a plan for achieving enclosure within the Rules' two-year timeline.

KCBX's proposal fails to describe how the company plans to comply with the Rules' requirement that all coke and coal handling, storage, and transfer operations occur within "[f]ully enclosed structures" within two years from the submission of the Enclosure Plan.<sup>11</sup> The Rules require KCBX to submit an Enclosure Plan within ninety days of the Rules' issuance, covering plans to enclose piles, conveyors, transfer points, and processing areas.<sup>12</sup> Enclosure of the piles and certain vehicle loading and unloading, in turn, must occur within two years of the submission of the Enclosure Plan.<sup>13</sup> Thus, absent an approved variance to exceed the two-year timeline for enclosure, the Enclosure Plan must describe the company's plan for enclosing piles and vehicle loading and unloading points within the required two-year timeframe. Because KCBX has not received a variance or even applied for one, and only vaguely describes a four-year schedule for enclosure in its June submission, the Department lacks grounds for approving KCBX's Enclosure Plan. It must reject the Enclosure Plan and require KCBX to submit the necessary two-year plan, either on its own or in conjunction with a variance application to extend the timeframe for compliance that includes the required detailed variance demonstration.

The Department should also reject the Enclosure Plan because it does not include a plan for complying with the Rules' requirement for "total enclosure of all . . . conveyors."<sup>14</sup> KCBX's Enclosure Plan explains that the company plans to use covered conveyors for the fixed conveyance of petcoke and coal.<sup>15</sup> The use of covered conveyors does not meet the Rules' requirement that all conveyors at a Coke or Coal Bulk Material Facility be totally enclosed.<sup>16</sup> This "total enclosure" requirement is stricter than the Rules' more general requirement that conveyors used at all Bulk Solid Material Facilities be "covered *or* enclosed."<sup>17</sup> The Rules require KCBX, as a Coke or Coal Bulk Material Facility, to use a fully enclosed conveyor system, such as a tubular gallery or a conveyor with a gallery with roofing

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<sup>11</sup> Rules at Sections 4.0(2), 6.0(5)-(6).

<sup>12</sup> *Id.* at Sections 4.0(1), 6.0(2).

<sup>13</sup> *Id.* at Sections 3.0(11)-(12), 6.0(6). While the truck and rail loading and unloading enclosure requirements are tied to enclosure of the piles, and so too the timeline for pile enclosure, the barge loading requirement to use enclosed chutes is not. *Id.* at Section 3.0(13). The deadline for complying with the enclosed chute barge loading requirement therefore is ninety days from the Rules' issuance, a date which has already passed. *See id.* at Section 6.0(2).

<sup>14</sup> *Id.* at Section 4.0(1).

<sup>15</sup> Enclosure Plan at 7-8, figs.3-4.

<sup>16</sup> Rules at section 4.0(1).

<sup>17</sup> *Id.* at Section 3.0(6).

and siding.<sup>18</sup> KCBX's plan to use conveyors with half-cylindrical belt covers and a unenclosed dribble pan<sup>19</sup> does not describe a totally enclosed conveyor system. Use of conveyors like those KCBX's plan describes can result in dust emissions when coal and petcoke dust blow off of the dribble pans. The Department should reject KCBX's Enclosure Plan because it plainly does not meet the Rules' requirement that coke and coal bulk materials handling facilities use totally enclosed conveyors to handle petcoke and coal.

More importantly, the Department should reject the Enclosure Plan because KCBX has failed to show that the terminals, as presently operated, are not adversely impacting the community. An additional two-year extension to the enclosure requirements is unacceptable in light of the significant evidence that the terminals are negatively impacting the community. This issue is discussed in more detail *infra* at Part IV.C.

Finally, the Department should reject the Enclosure Plan because KCBX provides no proposal for scaling back its operations to offset the additional lengthy period of adverse impacts it seeks. The company instead contemplates operating at its previously planned, enhanced capacity during the proposed additional two years before it achieves full enclosure. Indeed, KCBX seeks a number of variances, including a variance from the Rules' pile-height limit, that would allow the sites to operate at a greater intensity than could be accomplished while complying with the Rules' explicit requirements. Such layering of variances on variances and the ensuing potential for adverse impacts on the surrounding community is unacceptable—the Department should deny KCBX's business-as-usual proposal. Rather than asking for permission to exceed limits set by the Rules, KCBX should be proposing ways in which it can reduce its throughput and/or otherwise modify its operations so as to reduce impacts on the community over at least the additional two years that it seeks to achieve enclosure, including ways in which it can do better than what the Rules currently require, not worse.

To this end, we note that one potential source of dust that could be mitigated is the water used by KCBX to wet its piles and other emission sources. According to the Fugitive Dust Plan, KCBX uses water from retention ponds for its spray systems.<sup>20</sup> These retention ponds are the main receptacle for storm water at the

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<sup>18</sup> For images of tubular gallery conveyors, *see, e.g.*, Dearborn Mid-West Company, Tubular Galleries, *available at* <http://www.dmwcc.com/BusinessUnits/BulkHandlingSystems/CompleteProductLine/TubularGalleries/tabid/131/Default.aspx> (attached as Exhibit E). For images of conveyors using galleries with roofing and siding, *see, e.g.*, Redispan Modular Conveyor Solutions, Mangoola Coal Project, *available at* [http://redispancom.admin.webcentralwebsites.com/files/redispan\\_conveyors\\_mangoola\\_02.pdf](http://redispancom.admin.webcentralwebsites.com/files/redispan_conveyors_mangoola_02.pdf) (attached as Exhibit F).

<sup>19</sup> Enclosure Plan at 8 fig.4.

<sup>20</sup> Fugitive Dust Plan at 3.

sites,<sup>21</sup> and so the water in them likely contains particulate matter (PM) accumulated from the sites. Once sprayed into the air, this water thus can itself become a source of particulate pollution when it evaporates, similar to particulate matter from wet cooling towers.<sup>22</sup> KCBX should be required to consider other sources of water with lower potential for creating PM emissions when sprayed, along with other available measures for reducing the sites' current PM emissions.

### **III. The Commissioner Must Reject KCBX's Fugitive Dust Plan Because It Lacks Required Information and Will Not Ensure Compliance with the Rules**

The Commissioner should disapprove KCBX's Fugitive Dust Plan because it fails to meet the standards set forth in Section 3.0(3) of the Rules. Under Section 3.0(3), a facility must describe the emission sources and controls proposed, the facility's capacity, and the proposed air quality monitoring plan, among other things. Failure to provide required information or to ensure compliance with the Rules is grounds for the Commissioner to reject the plan.<sup>23</sup> The Commissioner should reject KCBX's submission for both of these reasons, as set forth below.

*Opacity Testing.* Rather than provide an opacity testing plan sufficient to ensure compliance with prohibitions on dust contained in the Rules, KCBX's Fugitive Dust Plan includes only a brief and vague paragraph on opacity testing that falls far short of the mark. The prohibition on off-site visible dust emissions and the opacity limits are two critical obligations under the Rules, making a robust testing plan of central importance.

The Fugitive Dust Plan must describe the schedule and plan for opacity testing. The testing must be conducted by a trained and certified professional, and occur under a range of weather conditions to ensure coverage of representative conditions.<sup>24</sup> Most importantly, the plan must "ensure compliance with the prohibition on Fugitive Dust" in Section 3.0(2) of the Rules, which prohibits visible emissions beyond the fenceline and requires storage piles, transfer points, roadways, and parking areas to comply with an opacity limit of ten percent.<sup>25</sup> KCBX's vague one-paragraph opacity testing plan does not ensure compliance with these requirements.

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<sup>21</sup> See Variance Petition at 42.

<sup>22</sup> See, e.g., U.S. EPA, AP-42 Section 13.4, Wet Cooling Towers at 1-2, available at <http://www.epa.gov/ttnchie1/ap42/ch13/final/c13s04.pdf> (attached as Exhibit G).

<sup>23</sup> Rules at Section 3.0(3) ("If the Commissioner finds that the submitted Fugitive Dust Plan is missing any required information or is insufficient to ensure compliance with these Regulations, the Commissioner may disapprove the Fugitive Dust Plan . . .").

<sup>24</sup> *Id.* at Section 3.0(3)(f)(ii).

<sup>25</sup> *Id.* at Sections 3.0(3)(f)(ii), 3.0(2).

A significant part of KCBX's short description of its opacity testing program is merely a recitation of the Rules' requirements, i.e., "[o]pacity testing is conducted on a quarterly basis" and "[o]pacity observations are completed by a trained and certified, third party 'Opacity Reader' using USEPA Method 9."<sup>26</sup> The remainder boils down to a plan to conduct testing on a single day per quarter, with the specific day left to the discretion of the Opacity Reader, "whose decision will be in part based on weather conditions the previous days that opacity readings were taken," i.e., the weather during past quarters.<sup>27</sup> KCBX provides no other description of its testing plans or objective standards.

This vague "plan" to do minimal testing and to leave all discretion to the Opacity Reader is not sufficient to ensure compliance with the continuously applicable prohibitions contained in Section 3.0(2) of the Rules. As U.S. EPA has explained, in order to ensure compliance with all applicable limits on air emissions, monitoring and reporting requirements "must be written in sufficient detail to allow no room for interpretation or ambiguity in meaning."<sup>28</sup> Nor can operators rely on vague descriptions of work practices to claim high degrees of control sufficient to meet applicable limits.<sup>29</sup> For these reasons, a robust testing and monitoring plan is needed here. KCBX's proposed plan, however, fails in at least the following ways:

- There is no objective standard by which to judge the Opacity Reader's determination of the proper days on and times at which to measure opacity relative to weather conditions. Objective conditions and weather thresholds triggering testing should be proposed and justified, most importantly those representative of worst-case emissions. The onsite weather monitoring data that KCBX collects should be used to track and verify the determinations.
- KCBX does not specify which sources it will test on the single testing day per quarter. The opacity limit applies to every pile, transfer point, roadway, and parking lot. Given that KCBX describes its operations as changing significantly based on customer needs,<sup>30</sup> it must commit to measuring each of these sources each quarter.

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<sup>26</sup> Fugitive Dust Plan at 15.

<sup>27</sup> *Id.*

<sup>28</sup> Letter from Bharat Mathur, Dir., Air and Radiation Div., U.S. EPA Region 5, to Robert F. Hodanbosi, Chief, Div. of Air Pollution Control, Ohio EPA at 5 (Nov. 21, 2001), *available at* [http://yosemite.epa.gov/r5/r5ard.nsf/2134f82000aa062c86257577004df4d7/e41cff2e2776db13862574c8006eb64c/\\$FILE/signedOHTV.pdf](http://yosemite.epa.gov/r5/r5ard.nsf/2134f82000aa062c86257577004df4d7/e41cff2e2776db13862574c8006eb64c/$FILE/signedOHTV.pdf) (attached as Exhibit H).

<sup>29</sup> *See, e.g., In re Cash Creek Generation, LLC*, Petition No. IV-2010-4, Order Granting in Part and Denying in Part Petition for Objection to Permit (U.S. EPA June 22, 2012), at 29, *available at* [http://www.epa.gov/Region7/air/title5/petitiondb/petitions/cashcreek\\_response2010.pdf](http://www.epa.gov/Region7/air/title5/petitiondb/petitions/cashcreek_response2010.pdf) (attached as Exhibit I).

<sup>30</sup> *See, e.g., Fugitive Dust Plan at 1* ("Potential emission points associated with Product piles and portable equipment can occur anywhere within the areas on the figures labeled as 'stockpile area.' . . . [P]ortable equipment is moved throughout the



- Expected dust emissions are closely linked to the amount of activity disturbing the material and the physical characteristics of the material being handled.<sup>31</sup> Thus, in order to demonstrate continuous compliance with the ten percent opacity limit and fenceline visible emissions prohibition, KCBX must propose a plan for opacity and visible emissions testing that tracks activity levels and material being handled at the terminals. KCBX’s plan should ensure that testing occurs during periods when worst-case emissions are expected based on significant movement of coke and coal. It is our understanding that the company likely already tracks its activity and material handled, so has the information needed to set a coordinated opacity testing schedule.
- KCBX also omits how it will determine where and when to test compliance with the prohibition on visible emissions beyond the fenceline. Video cameras are one available means for ongoing monitoring of visible emissions at the fenceline. Cameras could be installed at fenceline positions near working areas that see relatively higher levels of activity than other parts of the facility, e.g., vehicle loading and unloading areas and more active piles. KCBX has not demonstrated that video monitoring is impossible. The company should propose a plan for visible emissions fenceline monitoring that (a) includes, at minimum, video monitoring, (b) identifies the optimum locations from which and times at which to observe fenceline emissions, relative to weather conditions, activity levels, and material handled, and (c) covers worst-case emission scenarios.
- KCBX also omits from its opacity testing plan a contingency plan for opacity testing if the conditions necessary for valid Method 9 testing are not in place at a time when testing would otherwise be indicated due to weather and/or activity level. Method 9 is a relatively complicated test that requires certain geometric relationships to be present among the reader, the sun, and the point of observation. Without a contingency plan, critical testing times may pass without any valid testing occurring.

In light of the above, a single day of testing per quarter, determined without reference to any objective standards included in the Fugitive Dust Plan, will not ensure compliance with the Rules on a continuous basis.

*Control Measures.* KCBX also falls short in its description of control measures: the company fails to include any useful information regarding under what circumstances several controls on which it relies will be used. Coupled with the

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stockpile areas and used wherever it is needed based on customer demands. . . . [P]iles at the Facility change size, location, and shape—as often as daily—depending on customer demands.”).

<sup>31</sup> See, e.g., CDM Smith for City of Chicago, Fugitive Dust Study (Mar. 2014), at ES-1 to ES-2, available at [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/PetCoke\\_Public\\_Comments/102512DustReport031314.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/PetCoke_Public_Comments/102512DustReport031314.pdf).

deficiencies in the opacity/visible emissions testing plan, these omissions render the Fugitive Dust Plan inadequate to ensure compliance with the Rules, in particular the prohibitions contained in Section 3.0(2). The Fugitive Dust Plan's shortfalls include:

- The Fugitive Dust Plan does not contain any objective standards describing how KCBX determines the frequency and duration of watering by the pole-mounted spray system. The Fugitive Dust Plan states only that these parameters "are adjusted based on existing conditions, prevailing or forecasted weather [sic]."<sup>32</sup> Nor does the plan provide an objective gauge for when watering is deemed unnecessary due to "adequate carryover moisture" from previous precipitation or water application.<sup>33</sup>
- While KCBX mentions the use of a water truck to supplement pole-mounted water spray systems to control dust emissions from piles, it does not provide any detail on how the need for water trucks is determined and/or any objective protocol for employing the water trucks.<sup>34</sup>
- Similarly, KCBX provides no objective measures or protocols as to appropriate applications of spray systems during vehicle unloading or at transfer points. Instead, KCBX states only that such systems "can be applied" or "are available."<sup>35</sup>
- KCBX provides no quantitative information regarding minimization of drop distances at transfer points, or objective protocols for determining the shortest feasible drop distance.<sup>36</sup>
- The same issues with application of spray systems and minimization of drop distances are evident for product loading and traffic/parking areas.<sup>37</sup>

As noted above, vague descriptions of control measures have been a hallmark shortcoming of fugitive dust control plans in the past. KCBX must provide objective measures describing when it uses each of the dust controls, so that the Commissioner is able to judge whether the Fugitive Dust Plan will ensure compliance with the Rules.

*Reportable Action Level and PM10 Monitoring Contingency Plan.* KCBX proposes to set an extremely high action level and Reportable Action Level for its PM10 monitoring, with no substantive support for these levels. The Commissioner should reject these proposed levels because they fail to protect the community against adverse impacts from the facilities. These and other deficiencies in the PM10 Monitoring Contingency Plan are discussed below.

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<sup>32</sup> Fugitive Dust Plan at 3.

<sup>33</sup> *Id.*

<sup>34</sup> *Id.* at 2-3.

<sup>35</sup> *Id.* at 5-6.

<sup>36</sup> *Id.* at 6.

<sup>37</sup> *Id.* at 6-7.

KCBX describes a two-pronged approach governing its response to PM10 monitoring levels. First, if any monitor reads above 300 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) on an hourly basis, KCBX will “investigate and take actions at the terminal,” but not report to the City.<sup>38</sup> Second, if on a 24-hour average (over a 24-hour calendar day) the difference between any two monitors at a given terminal exceeds 300  $\mu\text{g}/\text{m}^3$ , KCBX will report to the City and take additional actions. The additional action steps consist of, in sum, (1) investigating whether an on-site source is suspected and reporting to the City if the proposed Reportable Action Level is exceeded, (2) if an on-site source is suspected, applying additional control measures, primarily water spraying, (3) monitoring PM10 levels in the next hour, and (4) if the difference in levels between any two monitors remains greater than 300  $\mu\text{g}/\text{m}^3$  after investigating and applying additional controls, suspending either (i) the on-site activity that was the source of the fugitive emissions (if one was identified) and conducting “mitigation activities,” or (ii) all material handling activity if no on-site source was identified, and continue monitoring PM10 until the difference is below 300  $\mu\text{g}/\text{m}^3$ , and (5) restarting activities once the difference has dropped below 300  $\mu\text{g}/\text{m}^3$ .<sup>39</sup>

The Commissioner should reject this proposal at the outset because KCBX has failed to demonstrate that a difference of 300  $\mu\text{g}/\text{m}^3$  is sufficient to prevent adverse impacts on the surrounding area. First, KCBX omits from its Fugitive Dust Plan any basis for this number. Second, KCBX’s apparent basis for the selection of 300  $\mu\text{g}/\text{m}^3$  is flawed.<sup>40</sup> The number appears to have been based on an air quality modeling analysis conducted by a consultant for KCBX, which we critique in more detail below.<sup>41</sup> Problems with the analysis include a failure to explain in and include with its submissions the actual modeling data and/or files, which would have enabled broad public assessment of the model’s inputs and assumptions; failure to include PM2.5 in the modeling analysis; analysis of an inappropriately small and limited sample of PM10 monitoring results, as well as reporting of only one potential impact point; assessment of a constrained set of onsite sources, given the dynamic nature of dust sources at the site; and failure to account for re-entrainment of dust after initial deposition. Third, KCBX chooses an inappropriate figure from the curve generated by its air quality modeling assessment on which to base the proposed 300  $\mu\text{g}/\text{m}^3$  RAL. Even accepting KCBX’s air quality analysis and resulting drop-off curve, the public has access to areas starting at KCBX’s fence line, which is

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<sup>38</sup> *Id.* at 16.

<sup>39</sup> *See id.* at 16-18.

<sup>40</sup> KCBX maintains the website [aboutpetcoke.com](http://aboutpetcoke.com), on which KCBX has posted a slide presentation whose title suggests that it was presented to the Department of Health. *See* KCBX Terminals Co., [aboutpetcoke.com](http://aboutpetcoke.com), Department of Health Presentation (under “Media Resources”), [http://aboutpetcoke.com/wp-content/uploads/2014/02/HUMMDMLIB02-277772-v5-JPA\\_Version\\_of\\_Department\\_of\\_Health\\_Presentation6.pdf](http://aboutpetcoke.com/wp-content/uploads/2014/02/HUMMDMLIB02-277772-v5-JPA_Version_of_Department_of_Health_Presentation6.pdf) (attached as Exhibit J). Slides 33 and 34 discuss the basis for the proposed RAL.

<sup>41</sup> *See id.*

ignored by the company's selection of the distance to the nearest house (allegedly 70 yards) as the relevant metric.

In addition, KCBX's proposed reporting level—a difference of 300  $\mu\text{g}/\text{m}^3$ —is far too high. The current 24-hour national ambient air quality standard (NAAQS) for PM<sub>10</sub> is set at 150  $\mu\text{g}/\text{m}^3$ . Thus in essence KCBX is asking for a pass to emit—from its site alone—double the entire concentration of the NAAQS without alerting the City. Not only is this level far too high, it entirely ignores that the sites do not operate in a vacuum, but contribute to a background level of PM<sub>10</sub>. Thus the Reportable Action Level, if based on the difference concept proposed by KCBX, should be set at some point below the PM<sub>10</sub> NAAQS. KCBX cannot affirmatively choose to operate a site close to other industrial sources, along with neighborhoods, and then act as if the background PM<sub>10</sub> concentration has no bearing on its own operations and obligations with respect to air quality.

It is also unclear whether steps I.B and IV of KCBX's Dust Monitoring Contingency Plan contemplate finding and addressing several on-site sources or just one priority source.<sup>42</sup> As multiple sources may be significantly contributing and require mitigation, the plan should make clear that all potentially contributing sources will be identified and subject to subsequent mitigation steps.

Step V in KCBX's proposal regarding restarting activities is also problematic. Under KCBX's proposal, the "Difference"<sup>43</sup> need only drop below 300  $\mu\text{g}/\text{m}^3$  for activities to resume. This could mean a minimal change in actual PM<sub>10</sub> levels between those just over a difference of 300  $\mu\text{g}/\text{m}^3$  and those just under this level, a relatively meaningless change from the perspective of potential adverse impacts. Instead, KCBX should be required to wait until levels drop significantly lower than the proposed action levels before resuming activity. Moreover, resuming activity as before could simply result in the same problem repeating itself. Restarting operations should be allowed only under circumstances and mitigation measures expected to keep PM<sub>10</sub> levels well below the trigger levels.

There are also aspects of KCBX's proposal that contain inconsistent or confusing language, and so require clarification and/or correction. For instance, while the heading for step III talks about "PM<sub>10</sub> Readings in next hour," this language combined with references to the "Difference" in step III.A leaves unclear whether step III is based on a new hourly difference between two monitors, or a revised 24-hour difference counting back from the end of that hour. The same applies for the reference to "the Difference" in steps IV and V.<sup>44</sup> The Fugitive Dust Plan should clarify what averaging period applies in each instance by, for example, stating the averaging period after each reference to the "Difference."

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<sup>42</sup> Contrast the use of the singular in these steps with "source(s)" in KCBX's discussion of High Wind Events, Fugitive Dust Plan at 16-18.

<sup>43</sup> See *id.* at 16 (defining "Difference").

<sup>44</sup> *Id.* at 17-18.

It also appears that KCBX is trying in this section of its Fugitive Dust Plan to propose an alternative process to deal with high wind events, though it does not directly cite the provision of the Rules allowing for such an alternative.<sup>45</sup> The company proposes using PM10 monitoring results and employing the hourly difference level discussed above to determine whether to suspend all transfer activities and “mitigate suspected source(s)” during High Wind Events.<sup>46</sup> This approach is problematic because it does not provide a real *mitigation* alternative to the suspension required under section 5.0(4) of the Rules. Rather, KCBX tries to limit the conditions under which the Rules’ high-wind suspension provision applies in the first place, i.e., to only those periods of high wind that also coincide with KCBX’s proposed high level of emissions based on PM10 monitoring. In effect KCBX is proposing a variance from the high wind provision (for which it has not applied and which it has not justified) to rely solely on its self-defined action level regarding responses to high winds. In addition, the PM10 monitoring does not necessarily capture all sources of concern under high wind conditions due to the location of monitors at a limited set of points around the perimeter, and so cannot stand as a proxy for a suspension of all disturbance activities under high wind conditions. For these reasons, KCBX has not demonstrated that this proposal constitutes the implementation of “alternate measures” that “effectively control dust,” as required under the Rules.<sup>47</sup>

*Recordkeeping System.* Above we propose a number of necessary fugitive dust plan components that require logging of activity levels and material type. This information should be collected and preserved in KCBX’s recordkeeping system under its Fugitive Dust Plan.

#### **IV. The Commissioner Should Deny KCBX’s Variance Requests Because They Are Incomplete and Because KCBX Has Not Shown that the Exemptions It Seeks Will Not Result in Adverse Community Impacts**

##### **A. Objections to Inclusion of a Variance Provision in the Rules**

In our prior comments on the City’s proposed dust rules, we raised significant concerns with both the vast scope of the variance provision and the lack of procedural safeguards for making variance determinations.<sup>48</sup> We urged the City to dispense with the variance provision altogether, or at minimum to include additional procedural and substantive safeguards. The City responded by adding requirements for variance applications, an opportunity for public comment, and criteria for reviewing variance applications.<sup>49</sup>

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<sup>45</sup> See Rules Section 5.0(4).

<sup>46</sup> Fugitive Dust Plan at 18.

<sup>47</sup> Rules at Section 5.0(4).

<sup>48</sup> Comments at 38-40.

<sup>49</sup> Rules at Section 8.0.

While we appreciate these improvements, we continue to believe that such a vast variance provision is problematic for proper control of dust and that improvements in the process are needed. The Commissioner can address these concerns to some extent through implementing the variance provision in a way that holds applicants' demonstrations to high standards and pays close heed to public comments.

At the outset, we provide two general comments to guide this review. First, the area of fugitive dust regulation generally is plagued by a history of poor emissions estimates, overblown claims of control efficiencies, a failure to address worst-case operating scenarios and emissions, and vague requirements. As such, it is especially important that applications for variances are supported by detailed, site-specific information, robust technical demonstrations, and specific, enforceable proposed alternative requirements that address all periods of operation. Second, obligations and costs above what the facility would have borne under prior city, state and federal obligations are to be expected under this new set of regulations. Mere reference to some increase in burden or impacts to business should not qualify as grounds for a variance, as taken up in more detail below regarding a demonstration of "arbitrary and unreasonable hardship."

## **B. Review of Variance Standards**

In its variance application, the applicant must describe the process or activity for which the variance is sought, as well as the quantity and types of materials used in the process or activity. Most importantly, the application must demonstrate why the variance will not result in a public nuisance or "adversely impact the surrounding area, surrounding environment, or surrounding property uses."<sup>50</sup> The applicant also must explain why compliance would impose an arbitrary or unreasonable hardship, why the proposed alternative measure is preferable, or why "compliance cannot be accomplished during the required timeframe" due to events beyond the facility operator's control.<sup>51</sup> All of this information must be provided "in detail."<sup>52</sup> In turn, in making a determination on a variance application, the Commissioner is to consider public comments, and give particular consideration to, among other things, whether a demonstration has been made that any adverse impacts will be minimal.<sup>53</sup>

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<sup>50</sup> *Id.* at Section 8.0(2).

<sup>51</sup> *Id.* at Section 8.0(2)(e). While Section 8.0 does not lay out additional guidance on what constitutes an arbitrary or unreasonable hardship, guidance may be found in the City's parallel criteria for review of a variation from the zoning ordinance, as summarized in City of Chicago, Dep't of Housing and Economic Development, "Zoning Board of Appeals Rules and Regulations," (Aug. 2011), at 12-13, *available at* [http://www.cityofchicago.org/content/dam/city/depts/zlup/Administrative\\_Reviews\\_and\\_Approvals/Publications/ZBA\\_Rules\\_and\\_Regulations.pdf](http://www.cityofchicago.org/content/dam/city/depts/zlup/Administrative_Reviews_and_Approvals/Publications/ZBA_Rules_and_Regulations.pdf).

<sup>52</sup> Rules at Section 8.0(2).

<sup>53</sup> *See id.* at Section 8.0(3)(a).

Regarding the required information on the activity and absence of adverse impacts, a general theme running throughout KCBX's Variance Petition is a lack of details and underlying analyses, in particular quantitative assessments, despite the Rules' charge that an applicant make its case "in detail." Without such information in the present Petition, KCBX has not demonstrated that it is due a variance and the Commissioner cannot make a valid and defensible determination. For this reason alone, the Commissioner should deny KCBX's Variance Petition.

A demonstration of arbitrary and unreasonable hardship, furthermore, requires more than mere vague, general assertions of impact on an applicant's operations and business. Rather, the requester must affirmatively show through evidence that the burdens will be both prohibitively high and specific to the requester. Some guidance to this end can be found in the approach taken by the Illinois Pollution Control Board under the provision of the state Environmental Protection Act providing for variances. The burden in such variance proceedings lies with the requester, who must provide concrete evidence of the claimed economic harms, such as income or earnings data.<sup>54</sup>

### **C. KCBX's Claims Regarding Impacts to the Community**

The Commissioner must deny KCBX's variance requests for the storage piles and conveyors because KCBX has failed to demonstrate that the proposed variances "will not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses," or that "adverse impacts will be minimal," in large part due to its reliance on inadequate consultant analyses and/or improper conclusions drawn from these commissioned analyses.<sup>55</sup> With its Variance Petition, KCBX submitted three exhibits—two regarding soil and surface sampling, and the third describing an air modeling exercise. These exhibits conclude the following:

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<sup>54</sup> See *Allaert Rendering, Inc. v. Ill. Pollution Control Bd.*, 91 Ill. App. 3d 160, 162 (1980); see also *Willowbrook Motel Partnership v. Pollution Control Bd.*, 135 Ill. App. 3d 343, 350 (1985) (affirming the Pollution Control Board's denial of a variance request, and explaining that "the burden was upon petitioner to show that arbitrary or unreasonable hardship *outweighed* the public interest in compliance with regulations designed to preserve the environment and protect human health" (emphasis added)).

<sup>55</sup> See Rules at Sections 8.0(2)-(3). In its Variance Petition, KCBX cites to the soil sampling and air quality modeling analyses regarding adverse impacts explicitly for its storage pile height and conveyor variance requests. To the extent that the other requests may be read as relying on these studies as well, such reliance is unwarranted for the same reasons.

- “No evidence of petcoke or coal on surfaces or in soil of East Side and South Deering neighborhoods based on indicators identified by testing petcoke and coal and by geography”<sup>56</sup>; and
- “all modeled concentrations remain well below the NAAQS level of 150 µg/m<sup>3</sup> for PM<sub>10</sub>” at the North and South Terminals.<sup>57</sup>

KCBX relies on these exhibits when discussing adverse impacts from its proposals to leave conveyors uncovered and to exceed the Rules’ pile height limitation, claiming that “granting these variances would not cause adverse impacts, as demonstrated by the air monitoring and the soil and surface data” and connecting this lack of impact to the existing dust suppression system.<sup>58</sup> There are a number of problems with this claim.

**i. Failure to provide underlying data and analyses**

As an initial matter, KCBX’s claim that its requested variance will not have adverse community impacts must be rejected because KCBX does not provide the data and analyses underlying these conclusions. The company instead provides only brief presentation-style summaries and reports from its consultants as exhibits to its petition. This failure to provide the underlying data and analyses makes it impossible for the Commissioner and the public to independently assess the conclusions reached by KCBX’s consultants.

**ii. U.S. EPA has come to the opposite conclusion, issuing a Notice of Violation based in part on the same data**

KCBX’s claims also should be rejected because U.S. EPA has come to a different conclusion about the significance of the petcoke and coal sampling data and air monitoring results, as evidenced in its Notice of Violation dated June 3, 2014 (“NOV”).<sup>59</sup> In the NOV, EPA found KCBX in violation of a number of provisions of the Clean Air Act and Illinois State Implementation Plan (“Illinois SIP”). Specifically, EPA found that:

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<sup>56</sup> Variance Petition Exhibit 2, David L. MacIntosh, “Petcoke-Coal Test Results” (Apr. 21, 2014), at 3; *see* Variance Petition Exhibit 1, David L. MacIntosh, “Petcoke-Coal Test Results” (Jan. 13, 2014), at 2.

<sup>57</sup> *See* Variance Petition Exhibit 3, Sonoma Technology, Inc., “Re: KCBX On-site Air Monitoring” (Apr. 25, 2014), at 4 (North Terminal) and 6 (South Terminal).

<sup>58</sup> Variance Petition at 23; *see id.* at 12-13, 27 (“The air monitoring and soil and surface data demonstrate that the Facility’s dust suppression system is working effectively, and that the Facility does not adversely affect the surrounding area.”), 29.

<sup>59</sup> *See* In the Matter of KCBX Terminals Co., Chicago, Illinois, Proceedings Pursuant to Section 113(a)(1) of the Clean Air Act, 42 U.S.C. § 7413(a)(1), Notice of Violation EPA-5-14-IL-13 (June 3, 2014) (attached as Exhibit K).



KCBX caused the emission of PM10 into the air, so as, either alone or in combination with contaminants from other sources, to cause or tend to cause, air pollution in Illinois and/or to prevent the maintenance of the revised NAAQS for PM10 in violation of the Illinois SIP . . . .<sup>60</sup>

The Illinois SIP, in turn, defines “air pollution” as

[t]he presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.<sup>61</sup>

The NOV cites the PM10 monitoring data that KCBX relies on in its variance petition, as well as KCBX’s soil sampling data.<sup>62</sup> U.S. EPA also cites its own “wipe sampling from homes and public spaces in the residential neighborhoods adjacent to the North and South Plants.”<sup>63</sup> The wipe sampling shows the presence of nickel and vanadium, two key markers of petroleum coke, at nearly 50% of the sampled locations, with vanadium-to-nickel ratios (a ratio acknowledged by KCBX’s consultant as a “key indicator” of petcoke and coal)<sup>64</sup> exceeding the background soil concentration (based on KCBX’s sampling data) in several instances. The NOV states that the vanadium-to-nickel ratio “at the sampling locations was highest at the location closest to KCBX and decreased as distance of the sampling location from KCBX increased.”<sup>65</sup>

In light of the fact that there is an EPA notice of violation pending against KCBX that is based on the same data KCBX relies on to claim a lack of adverse impacts from the sought variances, and that cites additional evidence against the company, KCBX has failed to meet its burden to show why the variance will not result in a public nuisance or “adversely impact the surrounding area, surrounding environment, or surrounding property uses.” The Commissioner cannot and should not approve the variance requests that rely on KCBX’s air modeling and soil and surface sampling exhibits.

Other factors also undermine the soil and surface sampling and air quality modeling analyses, as discussed below.

### **iii. Inadequacies in the soil and surface analysis**

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<sup>60</sup> *Id.* ¶ 24.

<sup>61</sup> 35 Ill. Admin. Code § 201.102.

<sup>62</sup> NOV ¶¶ 13-19 (air monitoring data), 21 (soil sampling data).

<sup>63</sup> *Id.* ¶¶ 20, 22.

<sup>64</sup> *See, e.g.*, Petition Exhibit 1, at 2 (“This presentation focuses on two key indicators of petcoke and coal: the vanadium to nickel ratio, and polynuclear aromatic hydrocarbon (PAH) ratios.”).

<sup>65</sup> NOV ¶ 23.

KCBX's soil and surface analysis fails to demonstrate conclusively that petroleum coke and coal dust is not being deposited outside KCBX's property lines. First, it is impossible to evaluate and interpret the analysis conducted for KCBX by Environmental Health & Engineering, Inc. from the materials submitted with its Variance Petition. Exhibits 1 and 2 of KCBX's Variance do not describe the protocol used to collect the soil and surface samples. For example, it is unclear whether the soil samples were taken at the surface level, or whether they included, e.g., a soil sample from between 1 and 5 cm below the surface, or some other depth. It is impossible to evaluate the significance of the results presented in Exhibits 1 and 2 without a detailed understanding of the protocols used to obtain the samples.

Second, it appears that KCBX's analysis used averages from the samples' key indicators, including the vanadium-to-nickel ratios and the PAH profiles in the samples. Because soil composition is so variable and the sample locations varied so widely in their direction and distance from the sites, using an average could easily mask any impacts that could be detected by analyzing the vanadium-to-nickel ratios and PAH profiles from individual samples.

Third, without knowing more details about the metal and PAH profiles of individual samples, the Commissioner cannot rule out possible confounding of the results by the background presence of coal and signature metals from industrial sources in the soil throughout Chicago. It is likely that Chicago-area soil has widespread elevated levels of several metals, including vanadium and nickel, that have been present for decades. Such elevated metal levels may have affected the background vanadium-to-nickel ratios in the soil sampled by KCBX, which would impact the relative changes in those ratios due to deposition of coal and petroleum coke dust from KCBX's Terminals. It is not clear whether KCBX's consultant has accounted for these possible confounding factors.

Finally, it appears that the soil and surface sampling did not include a sufficient number of sampling sites within close proximity to the terminals. Generally, fugitive dust emissions deposit relatively close to their source when compared with other air pollutants, though as discussed below such dust can be re-entrained by vehicles and other disturbances. Thus, KCBX's sampling sites should have focused on areas within a short radius of the terminals. Yet it appears that many of the sites were located at quite a distance from the terminals.

#### **iv. Inadequacies in the air quality modeling analysis**

The air quality modeling analysis briefly described in Variance Petition Exhibit 3 falls short in a number of ways.

First, as noted above, KCBX omits from its submissions to the City the model inputs and assumptions used by its consultants. A model without disclosure of the inputs and assumptions is a black box, and cannot be relied on to demonstrate an absence of adverse impacts.

Second, the model looks only at PM10 and fails to provide any information on potential PM2.5 impacts on the community. This is a significant omission given the harmful profile of PM2.5. In addition, PM2.5 tends to disperse farther from the source than PM10.

Third, the modeling exercise suffers from an incredibly small monitoring and sampling size. Modeling of only two days per facility is wholly inadequate to demonstrate a lack of adverse impacts from the terminals. The monitoring data available for the modeling exercise only covers February to April, a time period during which KCBX itself claims operations (and so dust emissions) are at a relatively low level.<sup>66</sup> The modeling exercise does not attempt to look at other times of year when drier, windier conditions are expected to result in more dust, as evidenced by the August and September complaints from 2013. In addition, because emissions from different parts of the site may look different, due to localized wind patterns or the siting of piles and equipment, the nearest residence to one part of the site is not necessarily where one would expect to see the highest projected PM levels.

Fourth, the modeling design does not appear to fully account for the dynamic way in which dust pollution from the facility may be generated and impact surrounding communities. From the meager description that the consultant and KCBX provided with the Variance Petition, it appears that the consultant modeled dust from piles within the facility perimeter alone, employing data from the PM10 monitors and weather stations.<sup>67</sup> It is not clear from the information provided whether the consultant adequately accounted for the full range of dust sources at the site, such as vehicles, conveyors, and loading and unloading structures.

The model also does not appear to have accounted for re-entrainment of dust that leaves the facility. The terminals are bordered by roads that are heavily traveled by trucks serving the terminals, as well as by local traffic, rendering the consultant's analogy to highways where pollution drops off precipitously after a narrow corridor<sup>68</sup> inapposite. The highways in those studies are themselves the primary source of the pollution being studied. Here, in contrast, dust from the facilities likely deposits on nearby roadways and other surfaces, where it can be sent back into the air by local traffic and other activities. There is no indication in

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<sup>66</sup> As described further below, *see infra* at page 25, the accuracy of KCBX's claim that its transloading operations meaningfully decrease during the winter months is unclear, given some conflicting statements by KCBX to government agencies.

<sup>67</sup> *See* Variance Petition Exhibit 3 at 3 (“[W]e conducted air quality modeling with . . . a peer-reviewed plume model designed to evaluate near-field (i.e., local) impacts of emissions from stationary sources (i.e., the material piles at the KCBX facilities).”).

<sup>68</sup> *See id.* at 2-3 (citing “studies conducted near heavily-traveled roadways [that] have shown that virtually all measured concentrations drop to background levels within 125 to 625 yards from the edge of the roadway”).

the modeling description that this aspect of dispersion from the sites was taken into account.

#### **D. Provisions from which KCBX Seeks a Variance**

##### **i. Enclosed Conveyors, Sections 3.0(6) and 6.0(3)**

The City should reject KCBX's dual requests to leave eight North Terminal conveyors unenclosed and to delay enclosure of twenty-six conveyors at the South Terminal by six months until March 2015, because KCBX has failed to show that no adverse impact to the surrounding area will occur from leaving conveyors uncovered or that it will suffer an arbitrary and unreasonable hardship from complying with the Rules' conveyor covering requirements.

Movement of bulk materials through a conveyor system can create fugitive dust emissions when wind and air currents travel across exposed parts of the conveyor, when particulates spill off of the conveyor system at transfer points, and when particulates spill off of the underside of the conveyor when the belt makes its return trip. Each time material is loaded onto a conveyor, unloaded off of a conveyor, or transferred from one conveyor to another, there is a drop point with the potential to emit dust.<sup>69</sup> As explained below, KCBX has not demonstrated that there will be no adverse impacts on the community from conveyors and conveyor drop points if it continues to operate with uncovered conveyors.

First, as set forth above, KCBX's soil sampling and air quality modeling analyses fail to show that the facilities' current operations do not adversely impact the surrounding community. Thus, because the variance request for conveyors would maintain the current operations for the thirty-four conveyors and relies on those analyses to show no adverse impact,<sup>70</sup> the Commissioner must reject the request.

Second, from the company's monitoring data that has been made publicly available to date, it appears that PM10 hourly averages at the perimeters of both sites can reach exceedingly high levels, at times nearing 700  $\mu\text{g}/\text{m}^3$ .<sup>71</sup> KCBX has not demonstrated that the uncovered conveyors contribute minimally to these levels, but only qualitatively claims that the conveyors are wetted by spray systems and

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<sup>69</sup> See U.S. EPA, AP-42, section 13.2.4, Aggregate Handling and Storage Piles (attached as Exhibit L).

<sup>70</sup> Variance Petition at 20, 23.

<sup>71</sup> For example, PM10 perimeter monitors at the South site recorded PM10 levels as high as 684 and 690  $\mu\text{g}/\text{m}^3$  on April 12, 2014. On June 2, 2014, a monitor at the South site recorded a PM10 level of 947  $\mu\text{g}/\text{m}^3$ , over *six times* the NAAQS for PM10. At the North site, PM10 readings at the perimeter monitors reached 983  $\mu\text{g}/\text{m}^3$  on April 12, 2014, and 688  $\mu\text{g}/\text{m}^3$  on February 27, 2014. The data from KCBX's perimeter monitors is posted on EPA's website, see <http://www2.epa.gov/petroleum-coke-chicago/kcbx-fenceline-air-monitoring-data>.

other measures that sufficiently control dust from conveyors.<sup>72</sup> Since KCBX similarly claims that all of its dust suppression methods are effective<sup>73</sup> but the sites still exhibit high hourly PM10 readings, the Commissioner must assume that these measures, including the conveyor control measures, are not effective, in the absence of source-specific demonstrations to the contrary.

Third, KCBX provides no quantitative or other engineering analysis of the difference in emissions expected between the required covered conveyors and its uncovered conveyors with spray systems. Again, KCBX asks the Commissioner and the public to take it at its word that the latter will not result in significant pollution. KCBX at minimum should provide such an analysis, including expected emissions from both the length of the conveyors and associated drop points under each control scenario. Since part of this analysis pertains to existing equipment, the figures for the current conveyor set-up should be based on actual data from the eight conveyors that is representative of normal and worst-case emissions. There is reason to expect that such an analysis would show that fully enclosing or covering conveyors would be substantially more effective at controlling fugitive dust emissions than using water-based suppression systems.<sup>74</sup>

Fourth, KCBX nowhere commits to a date certain by which the North Terminal operations will be transferred to the South Terminal. Its request therefore asks the Department for an open-ended approval to continue operating eight uncovered conveyors at the North Terminal. Such an unlimited waiver of conveyor enclosure requirements must be rejected, as it provides no assurances as to when contribution to the adverse impacts from uncovered conveyors will end. Also, without an enforceable commitment to a date certain for completing the transfer of operations, the City cannot determine whether an investment of \$1 million in covering those conveyors (assuming such costs are accurate, which again cannot be ascertained because KCBX provides no documentation for its cost figures)<sup>75</sup> would constitute an arbitrary and unreasonable hardship.

Fifth, regarding its request to delay enclosing the South Terminal conveyors, KCBX omits a detailed description of the design and installation process relative to throughput, rendering it impossible to determine whether installation could occur on a staggered schedule so as to be completed by or closer to the Rule deadline with an acceptable level of impact on operations. KCBX instead only generally mentions 10 to 12 weeks for installation from the time the covers are ordered.<sup>76</sup> The omission

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<sup>72</sup> Variance Petition at 20. Note that KCBX provides no operating records by which to evaluate implementation of these measures and their effectiveness on controlling dust.

<sup>73</sup> See generally Fugitive Dust Plan.

<sup>74</sup> See, e.g., Countess Environmental for Western Governors' Ass'n, WRAP Fugitive Dust Handbook (Sept. 7, 2006) at 4-5 (attached as Exhibit M).

<sup>75</sup> Variance Petition at 20.

<sup>76</sup> *Id.* at 21.

of throughput information also violates the requirement to describe “[t]he quantity and types of materials used in the process or activity in connection with which the variance is requested.”<sup>77</sup> Indeed, nowhere does KCBX provide any numeric information regarding quantity of materials; the company instead provides only vague qualitative references to all or some of the material handled at the sites, stating that these amounts generally increase or decrease under various operating conditions.

Sixth, KCBX fails to provide any information on its contracts showing that accommodation for compliance with the Rule would constitute a breach resulting in disastrous penalties. Nor does it indicate any attempt to negotiate with its clients to accommodate the current conveyor enclosure deadline, or estimate how much of its business would be impacted by installing the conveyor enclosures on time or slightly after the Rule deadline. KCBX instead only asserts that “[t]o meet the obligations of KCBX’s current contracts, all conveyors must be kept in service through October 31, 2014” and “[r]equiring KCBX to violate its contracts and take conveyors out of service to have covers installed before October 31, 2014 is arbitrary and unreasonable.”<sup>78</sup> A general reference to business impacts does not suffice for the required demonstration of an arbitrary or unreasonable hardship. It should be noted that, with respect to meeting deadlines set by the Rule, the variance provision highlights “events beyond the Facility Owner or Operator’s control such as permitting delays or natural disasters.”<sup>79</sup> No such events are cited in KCBX’s petition with respect to the conveyor deadline.

Seventh, KCBX has failed to show that an extension over the winter will not produce adverse impacts. Operation of twenty-six open conveyors during the winter cannot be presumed to create negligible dust emissions. While KCBX claims that its operations slow considerably during the winter and asserts no adverse impacts from the extension based on this claim,<sup>80</sup> it provides no actual estimation of the activity decrease or proposal to take enforceable limits on conveyor use. Moreover, some of the highest PM10 perimeter monitoring results available to date for the terminals were observed in February.<sup>81</sup> Again without evidence linking these high levels to a particular source within the facility, and/or evidence showing that they are *not* in part the result of uncovered conveyors, the City must presume that the open conveyors contribute to these readings and their continued operation without covers contributes to adverse community impacts.

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<sup>77</sup> See Rules at Section 8.0(2)(c).

<sup>78</sup> Variance Petition at 21.

<sup>79</sup> See Rules at Section 8.0(2)(e)(ii).

<sup>80</sup> Variance Petition at 19.

<sup>81</sup> As noted above, even higher levels are expected during the summer months; this citation to February PM10 data is meant only to highlight that emissions during the winter are not negligible, not to suggest that February dust levels are expected to be among the highest for the facility on the whole.

## ii. Outdoor Pile Height, Section 5.0(2)

As with the conveyor variance request, KCBX has failed to demonstrate that exceeding the Rules' pile height limit will not cause adverse impacts or that a pile height less than 45 feet is infeasible. Failure to propose other means for mitigating dust from the proposed enlarged piles also is grounds for denial. Denial of the pile height variance request is especially important given KCBX's representations in its Enclosure Plan that it does not plan to enclose these piles until 2018 (if even then).

KCBX does not explain in detail how the volumes of material it estimates (in its Fugitive Dust Plan) it can store at different maximum pile heights align with its customer obligations. Instead, it appears to require the Commissioner to take the company at its word regarding the necessary configuration of the site. These omissions violate the requirement that a variance requestor detail the quantity and type of material involved in the variance request. The practical result is that the Commissioner (and the public) cannot independently evaluate the proposed alternative limit of 45 feet, or any heights between the Rules' 30 feet and the proposed 45 feet, in terms of impact on operations and dust pollution.

The company also makes a general doomsday economic argument parallel to that made for the conveyors, repeating that if held to the Rules' requirements it will not be able to satisfy existing customer obligations.<sup>82</sup> For the same reasons set forth above with respect to the conveyors, this general and undocumented reference to existing customer obligations does not suffice to show an arbitrary or unreasonable hardship.

Most importantly, KCBX has not demonstrated that its current means for controlling dust from the piles is effective and will not result in an adverse impact on the surrounding community. Again, PM10 monitoring results show significant dust levels at the perimeter, and in the absence of a site-specific, independently verifiable demonstration that the storage piles are not a contributing source, the City must assume that the piles are contributing to this adverse impact and thus should not be allowed to exceed the Rules' pile height limit.<sup>83</sup>

Nor has KCBX proposed to use any additional measures for controlling dust from these high piles. During the rulemaking process, a number of additional measures for control of piles, such as wind screens and tarping, were discussed. KCBX has not included in its submissions any discussion of whether it could employ any such additional measures to reduce the potential for dust from the large storage piles.

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<sup>82</sup> *Id.* at 25.

<sup>83</sup> Excess pile height can contribute more fugitive dust both from (a) the resulting additional throughput and activity at the site, and (b) more dust blowing off the increased surface area of the piles. *See, e.g.*, U.S. EPA, AP-42, Section 13.2.5, Industrial Wind Erosion (explaining that "[d]ust emissions may be generated by wind erosion of open aggregate storage piles") (attached as Exhibit N).

**iii. Winter Operation of Dust Suppressant System, Section 5.0(5)(b)**

KCBX's request for permission to continue transloading operations without using spray systems when temperatures fall below 25 degrees Fahrenheit due to icing concerns should be denied, because the company has failed to demonstrate how dust will be adequately controlled and/or minimized during these periods and so how adverse impacts on the community will be avoided. During two days in late February 2014 when temperatures reached around 19 degrees F, both facilities experienced very high PM10 levels. On February 27, 2014, PM10 levels at the North Terminal reached hourly averages of 300 to nearly 700  $\mu\text{g}/\text{m}^3$  over the course of several hours.<sup>84</sup> A monitor at the South Terminal similarly recorded PM10 levels above 600  $\mu\text{g}/\text{m}^3$  on March 1, 2014, when temperatures also dipped below 25 degrees. It appears that these high levels were concurrent with significant transloading activity at the site.

These high readings on very cold days demonstrate that KCBX does not have an effective method for controlling dust from transloading during low temperature periods. Nor does the Variance Petition provide any technical or engineering support for its alternative proposal of keeping materials moist (as defined by the Rules) and later applying water and/or chemical dust suppressants when temperatures increase. Indeed, because it appears that dust is generated during the transloading activity itself, later application of suppressants is inadequate to minimize dust over the exempted cold periods.

In addition, KCBX fails to state what quantity and type of material it expects to be handling over the winter when temperatures are projected to drop below 25 degrees in the Chicago area, as required by the Rules. The company instead only provides a general statement that transloading will be reduced during winter months due to freezing on the Calumet River and Great Lakes, and relies on this statement to assert no adverse impacts.<sup>85</sup> Nowhere within its submissions to the City does KCBX quantify this reduction, or discuss whether alternative modes of transportation not hindered by freezing waterways, such as truck and rail, substitute to some degree for water transport during these months. This omission of information on quantity and type of material makes it impossible for the City to verify the claimed reduced scope of the potential dust emissions from the

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<sup>84</sup> The hourly PM10 difference between the highest and lowest monitors significantly exceeded 300  $\mu\text{g}/\text{m}^3$  at several points on this day. Even accepting KCBX's definition of this metric as an acceptable trigger for additional mitigation (and it is not, as discussed at pages 10-13 above), the Fugitive Dust Plan fails in that it relies almost entirely on application of water and chemical suppressants in step II and omits any discussion of alternative measures to control dust during low temperature periods.

<sup>85</sup> Variance Petition at 31-32.



applicant's proposal, and/or determine whether limits on transloading are feasible to reduce expected impacts.

Further, KCBX's assertions regarding its decreased transloading during the winter months is inconsistent with the company's other submissions to regulatory agencies. For example, in the Construction Permit Application for a Federally Enforceable State Operating Permit (FESOP) Source, submitted by DTE Chicago Fuels Terminal, LLC in September 2012 and relied on by KCBX, the applicant states that its annual throughput is divided evenly between the four seasons, with 25% of its throughput occurring between December and February.<sup>86</sup> In 2013, 18% of the North site's transloading activity and 35% of the South site's transloading activity took place during December, January, and February.<sup>87</sup> This demonstrates that even in winter months, KCBX may handle substantial amounts of petroleum coke and coal.

Nor does the temperature in Chicago dip below 25 degrees only "infrequently," as claimed and relied upon by KCBX in asserting that there will be no adverse impacts on the community from its requested variance.<sup>88</sup> This past winter's record low temperatures show that temperatures between December and March regularly fall below 25 degrees for extended periods of time during the day, not to mention at night (and as discussed above, there is no indication that KCBX limits its transloading operations to daytime hours).<sup>89</sup> Significant periods of temperatures below 25 degrees were also seen in November 2013. Past years posed similar, if not quite as lengthy, periods of temperatures below 25 degrees. KCBX provides no accounting of these periods to support its claim that they are "infrequent."

KCBX once again provides no information to support its assertion that the Rules will create an arbitrary and unreasonable hardship for the company. Instead, KCBX merely notes that turning away shipments during low temperature periods would hinder the company's ability to perform its contractual obligations.<sup>90</sup> This general statement does not meet the company's burden for showing an arbitrary and unreasonable hardship, as explained above.

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<sup>86</sup> DTE Chicago Fuels Terminals, LLC, Construction Permit Application for a Federally Enforceable State Operating Permit (FESOP) Source (Sept. 2012), at 15 (attached as Exhibit O).

<sup>87</sup> See Letter from Koch Minerals, LLC to U.S. EPA in response to EPA's Information Request under Section 114 of the Clean Air Act (dated Jan. 31, 2014) (attached as Exhibit P).

<sup>88</sup> Variance Petition at 32.

<sup>89</sup> See, e.g., monthly temperatures as reported by Accuweather.com, available at <http://www.accuweather.com/en/us/chicago-il/60608/month/348308?monyr=12/01/2013> (click right arrow to view temperatures for January, February, and March 2014) (attached as Exhibit Q).

<sup>90</sup> Variance Petition at 32.

KCBX also fails to mention that once operations are enclosed, it will presumably not rely as heavily on water spraying to control dust control at the site. KCBX's proposal to delay enclosure of its piles and various other emission sources thus exacerbates the negative impacts that would be allowed to continue under KCBX's current variance request. The Commissioner should reject both the extension proposal and the variance request.

**iv. Suspension of Disturbance, Section 5.0(5)(c)**

KCBX seeks an exemption from the Rules' requirement that a facility "suspend disturbance" of bulk material piles during times when the part of the facility's dust suppression system that controls dust emissions from those piles becomes inoperable or is undergoing maintenance.<sup>91</sup> KCBX argues that it should be allowed to continue its bulk materials handling and transloading even when parts of its dust suppression system are inoperable.<sup>92</sup> While it is reasonable to avoid shutdown of operations where a company can apply control measures equivalent to those that are required by the Rules (but are temporarily unavailable), KCBX's proposal lacks the specificity and enforceability necessary to ensure that dust will be subject to equivalent controls when parts of KCBX's dust suppression system are inoperable. The company proposes a two-pronged approach, both prongs of which are exceedingly vague. This vagueness alone is grounds for rejecting the request.

First, KCBX proposes to use "a different method," unless "weather conditions and/or Product moisture mean additional dust suppressant is not necessary."<sup>93</sup> There is no commitment that this "different method" be of equivalent effectiveness, or that KCBX receive approval from the City to use such a method upon a finding of equivalence. Such specificity is needed to ensure that the alternative method is of equivalent control effectiveness. Also, as explained above regarding the proposed Fugitive Dust Plan, KCBX has proposed no objective measures of what weather conditions render dust controls unnecessary. Nor does KCBX link the standard of "necessary" to any objective measure, such as compliance with the opacity limits that apply to the emission sources.

Second, KCBX proposes that it be allowed to "monitor[ ] the activity at issue and respond[ ] to visible dust emissions, including shutting down the activity if necessary."<sup>94</sup> The vagueness of this statement is visible on its face. It provides no objective standards as to what constitutes monitoring or responding to the activity, or again what KCBX means by "if necessary."

KCBX also falls short in its description of claimed arbitrary and unreasonable hardship. This variance request, like the others, does not attempt to quantify the

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<sup>91</sup> See Rules Section 5.0(5)(c).

<sup>92</sup> Variance Petition at 35-36.

<sup>93</sup> *Id.* at 35.

<sup>94</sup> *Id.* at 36.

impacted operations and translate that impact into effects on the business.<sup>95</sup> Without such a showing, KCBX has failed to meet its burden on this issue.

**v. Runoff Management, Grading, Section 5.0(6)(d)**

Similar to the variance request regarding operation of spray systems during low temperature periods, KCBX only briefly touches upon the fact that the water pooling variance that it seeks is tied in large part to maintenance of outdoor piles, for which it also intends to seek an extension.<sup>96</sup> Without outdoor storage, the spray systems for most if not all emission sources would be unnecessary or significantly scaled back, removing or reducing the claimed source of pooling.

KCBX's demonstration regarding this request fails to show that water pooling is not a concern from an air quality perspective—instead, the company merely claims that water pooling is necessary to control other sources of airborne dust.<sup>97</sup> Such pooled water likely contains relatively high levels of dissolved and/or settled coke and coal dust, as discussed above regarding the use of retained water for spraying. When trucks travel through the pools, this water can splash onto the trucks, depositing the coke and coal on the vehicles; if the pools are located between the point of vehicle washing and the exit, this splashing can counteract the effectiveness of the cleaning and result in track-out. Water from the pools also may evaporate, leaving accumulations of coke and coal that, under the Rules, must be removed at the end of each work shift.<sup>98</sup> KCBX has not demonstrated that neither of these air quality issues will be a problem at the terminals if pooling is allowed to continue unabated. Nor has KCBX demonstrated that pooled, polluted water will not seep into the groundwater beneath the site (which KCBX concedes is unpaved) and from there into the Calumet River, or otherwise result in water pollution.

KCBX's Variance Petition also fails to discuss alternate measures that KCBX can undertake to reduce water pooling on the site. Instead, the company focuses on complete prevention, making a general statement that vehicles used to move petroleum coke and coal at the site make depressions, and that “[i]t is impossible for KCBX to completely smooth out these depressions and ruts in a way that would completely eliminate any pooling of water.”<sup>99</sup> KCBX goes on to assert that the only way to comply with the Rules' requirement would be to pave the entire site, which it claims would impose an arbitrary and unreasonable hardship, and uses this same line of reasoning to argue that there are no feasible alternate methods of

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<sup>95</sup> *Id.* at 37 (claiming that “preventing operations would cause KCBX and its customers operational difficulties and force them to incur unnecessary costs”).

<sup>96</sup> *See id.* at 41 (discussing how paving will become obsolete once the piles are enclosed as required by the Rules).

<sup>97</sup> *See id.* at 40 (“Any pooling of water does not create air emissions—rather, it serves to help prevent potential air emissions from the area in which the pooling occurs.”).

<sup>98</sup> *See* Rules at Section 3.0(16).

<sup>99</sup> Variance Petition at 39-40.

compliance.<sup>100</sup> Omitted from this discussion is any proposal to minimize pooling through various work practices so as to reduce the air and water pollution concerns posed by pooled water. Such work practices may include smoothing of and/or removal of water from larger pools, as well as fine-tuning of the spray systems to ensure minimal runoff from this source of water and, as discussed above, restrictions on the content of source water for spray systems to reduce any dust-forming components that runoff may contain.

Finally, it is not unreasonable for the Department to include in its dust regulations a provision that helps to control the related issue of the amount of harmful material reaching water bodies via non-air pathways. Nor are we aware of any limitations on the Department's authority that require it to compartmentalize its rules as KCBX's Petition seems to suggest.

## CONCLUSION

In sum, KCBX has fallen far short of the burden it bears in justifying its Variance Petition and has failed to meet the Rules' requirements regarding an enclosure plan and fugitive dust plan. The company at the same time has made clear its intention to continue operating without taking any significant additional steps to control dust at its sites or to document its compliance—though monitoring data and neighbor complaints continue to show that the sites are burdening the community. For these reasons, we respectfully ask the Commissioner and the Department to deny approval of KCBX's Variance Petition, Enclosure Plan, and Fugitive Dust Plan.

Sincerely yours,



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<sup>100</sup> See *id.* at 41-42.

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