KINDER MORGAN
TERMINALS

2926 East 126th Street • Chicago, IL 60633
Phone (773) 646-8000 • Fax (773) 646-6219

March 2, 2015

Via U.S. Mail and Email

Otis Omenazu
Chief Air Engineer
Chicago Department of Public Health
333 South State Street, Room 200
Chicago, IL 60604

Re: Response of Kinder Morgan/Chicago Arrow Terminal, 2929 E. 126th Street, to CDPH's Request for Information related to Chicago Arrow's Request for Variances from Air Pollution Control Rules and Regulations for Control of Emissions from Handling and Storage of Bulk Material Piles

Dear Mr. Omenazu:

Kinder Morgan/Chicago Arrow Terminal ("Arrow Terminal") filed its Variance Request on June 11, 2014 regarding a limited number of provisions to the above-referenced Rules and Regulations. On January 29, 2015, Arrow Terminal received this Request for Information related to the Variance Request. By letter dated February 23, 2015, CDPH granted Arrow Terminal a 60-day extension of time to respond to Request No. 2, and a 30-day extension of time to respond to Request No. 3. Arrow Terminal responds to the remaining Requests, as follows:

1) First, with respect to Section 3.0(2)(c) of the Rules, and Kinder Morgan's request to be able to use Method 9 to measure opacity, please note that CDPH corrected a typographical error in this section. The reference to 35 Ill. Admin. Code 212.107 should have been 35 Ill. Admin. Code 212.109. Accordingly, Method 9 is the correct method for measuring opacity under the Rules, and a variance is not required. However, if Kinder Morgan still seeks a variance from any part of this section, please let us know.

   RESPONSE: In light of the correction, Arrow Terminal withdraws this variance request.

2) With respect to Section 3.0(4), and the requirement to install, operate, and maintain fugitive dust monitors, Kinder Morgan requests an extension of time until June 11, 2016 to "continue to evaluate fugitive dust at the Terminal and implement additional

measures that are designed to further eliminate off-site fugitive dust emissions." (Kinder Morgan Request p. 11.) However, it is not clear what Kinder Morgan intends to do on June 11, 2016, nor is it clear how Kinder Morgan will evaluate fugitive dust during the interim. Similarly, it is not clear how Kinder Morgan will demonstrate the effectiveness of the additional measures.

Therefore, please provide additional details to support Kinder Morgan's request not to install a dust monitoring network, including evidence of the effectiveness of Kinder Morgan's current and planned fugitive dust control program. If available please include any scientific studies or reports and any site-specific technical evaluations. Please also be sure to include citations and supporting calculations for all of the sources of emissions data and other information upon which you rely.

RESPONSE: CDPH granted Arrow Terminal a 60-day extension, to May 1, 2015, to respond to this request.

3) With respect to Section 3.0(5), and the requirement to install, operate, and maintain a permanent device to monitor and log wind speed and wind direction, Kinder Morgan proposes to use aviation-rated windsocks that fully extend at or above the stated wind speed and implement a program of manual, rather than electronic, logging. In a related request, Kinder Morgan seeks to change the definition of High Wind Event from 15 miles per hour (MPH) to 15 knots (17.3 MPH). Kinder Morgan states that this alternative method is more protective than the City's regulations, because employees can react immediately to a High Wind Event, rather than waiting for two subsequent five-minute periods with sustained winds over the limit.

Please provide additional details regarding the effectiveness of the proposed alternative method. In particular, please describe the placement of the windsocks (where on site, how high, how many), including any manufacturer's recommendations. In addition, how often will employees look at the windsocks? Can an alarm be added to alert employees when the windsocks are fully extended? With regard to the daily recordkeeping requirement in Section 3.0(17)(b), how will the site supervisor obtain the information to complete the Supervisor's Shift Log? Will he or she consult the monitor located in the superintendent's office, or one of the windsocks? Besides the maximum 15 knots, what other wind speeds are the windsocks capable of detecting, and how accurate are they?

RESPONSE: CDPH granted Arrow Terminal a 30-day extension, to April 1, 2015, to respond to this request.

4) With respect to Section 3.0(7) regarding transfer points, Kinder Morgan requests an exemption from all dust control options in this section, stating that "Given the nature of the products handled and the configuration of the Terminal...we are implementing alternative measures to control fugitive emissions from Transfer Points and to ensure that opacity remains within allowable limits." However, based on the

materials provided, Kinder Morgan has not demonstrated the effectiveness of the alternative measures. In addition, with regard to products stored outdoors, the conditions under which water will be applied are not clearly specified. With respect to truck transfer points, the request states that "during periods of high temperatures, low humidity and/or high winds, water will [be] applied to the face of the outdoor storage pile to control fugitive dust." (Kinder Morgan Request, p. 25.) Besides the lack of specificity, Kinder Morgan has not demonstrated why water cannot be applied at other transfer points by means other than a "water spray system," such as water trucks, when temperatures are above freezing

Accordingly, please provide a detailed response addressing the questions above, and please provide evidence of the effectiveness of the proposed alternative measures.

RESPONSE: Arrow Terminal seeks a variance from section 3.0(7). Given the nature of the operations, Arrow Terminal cannot meet the requirements at all of the transfer points, but Arrow Terminal can successfully control fugitive emissions at all of the transfer points. Arrow Terminal has the following transfer points: 1) barge unloading (barge loading operations occur very infrequently); 2) railcar loading (railcar unloading operations occur very infrequently); and 3) truck loading (truck unloading operations occur very infrequently).

As stated in the Variance Request, it is technically infeasible and economically unreasonable to install a total enclosure at all of the transfer points, and technically infeasible and economically unreasonable to install vented pollution control equipment at all of the transfer points. Specifically, it is not feasible to make these installations at the barge unloading/loading area, the railcar unloading/loading area, and the truck unloading area (which occurs very infrequently). Of note, after filing the application, Arrow Terminal installed a cover on the railcar conveyor, a copy of which is attached as Exhibit A.

Arrow Terminal also implemented comprehensive fugitive dust control measures at each transfer point, including the barge unloading/loading, railcar unloading/loading, and truck unloading transfer points. These measures include, but are not limited to, closing all but three barge lids during barge unloading operations during all weather conditions, even during low wind conditions, filling the unloading bucket only part way during barge unloading operations, closing all port holes except one to the railcar during railcar loading operations, and employing trained opacity readers on site. A copy of the Fugitive Dust Plan, which sets forth the fugitive dust control measures in much greater detail, was submitted to CDPH on June 11, 2014. Even though CDPH is withholding any determination on the Fugitive Dust Plan until after it rules on the Variance Request, Arrow Terminal has been operating in compliance with the Plan. Arrow Terminal incorporates the Fugitive Dust Plan by reference as part of its response to this request. Arrow Terminal is also in the process of reviewing its Fugitive Dust Plan and will incorporate any revisions into the Plan necessitated as a result of this variance process.

Arrow Terminal states that truck loading operations for all alloys and other moisture-sensitive materials are performed indoors. Arrow Terminal is in the process of installing a new dust collector in the building where the truck loading operations take place. Currently, doors to the building remain open during truck loading operations, but the doors will be closed once the new dust collector is installed. At that time, truck loading will take place in a totally enclosed building, with the exception of pig iron and aggregates (also referred to as scrap), which are the only products stored outdoors. The new dust collector has been designed and the capital expenditure, which exceeds $500,000, has been approved. A copy of the design of the new dust collector is attached as Exhibit B. Arrow Terminal anticipates that the new dust collector will be delivered in the second quarter and installed in the second or third quarter of this year.

As stated in the Variance Application, it is impossible for Arrow Terminal to "transfer only moist material." Arrow Terminal also cannot spray any products with water at any transfer point, with the exception of pig iron and aggregates. These products include numerous types of alloys that cannot become wet per product specification and customer requirements. Wetted alloys are a major safety concern for the customers, primarily steel mills, because the potential for molten melt splash which can lead to catastrophic explosions. Documentation that these products cannot become wet is attached as Exhibit C. As stated, these products are almost always loaded indoors. The new dust collector will be installed later this year, at which time the truck loading operations will be performed in a totally enclosed building.

Regarding pig iron and aggregates, which are the only products stored outdoors, Arrow Terminal moved the storage bins away from the perimeter of the property. The pig iron and aggregates are now stored at least 50 feet from the property boundaries. Furthermore, as reflected in the Fugitive Dust Plan, Arrow Terminal ensures that the product is wet, either by wetting with the water truck or by natural means, before truck loading operations begin or before the product is moved within the facility. Arrow Terminal also wets the product during storage if weather conditions warrant or if dust is observed. Arrow Terminal uses a water truck to spray the piles before these operations begin, or as needed. If the pig iron or aggregates are already wet due to weather conditions, there is no risk of fugitive emissions, so Arrow Terminal will not use the water truck under such conditions. The only exception is when the temperature falls below freezing, which is discussed in more detail in response to Request No. 5.

Arrow Terminal notes that it is not usually necessary to wet pig iron before barge unloading operations begin. The barges that contain pig iron arrive at Arrow Terminal uncovered and the pig iron is already wet as a result of the barge transport. If a pig iron barge has not encountered any precipitation on the trip from New Orleans to Chicago and is not dust suppressed by other natural factors (snow and ice), the pig

iron will be wetted as part of the unloading process, before it is placed on the outdoor pad.

Arrow Terminal further notes that it seldom receives pig iron or aggregates by railcar. Almost all the products that are received by rail are alloys and other moisture-sensitive materials. On the rare occasions that Arrow Terminal does receive pig iron by rail, the top of the car is open, so the pig iron is already wet as a result of the rail transport. Like barges, if the pig iron has not encountered any precipitation during the trip by rail, it will be wetted as part of the unloading process, before it is placed on the outdoor pad.

Arrow Terminal reasonably believes that the alternative measures it has proposed and implemented, including all of the comprehensive measures identified in the Fugitive Dust Plan, successfully control fugitive emissions. Now that the pig iron and aggregate storage piles have been moved away from the perimeter of the property, there is no reasonable likelihood that emissions from these piles will leave the property.

Arrow Terminal has conducted numerous unofficial readings under Method 9 at the various transfer points, which demonstrate that the opacity at the transfer points is within allowable limits. The only readings that exceeded the allowable limit were taken at the truck loading area in August 2014, for the purpose of gathering data to assess dust control techniques and the effectiveness of the dust control measures employed as of that date. As a result of those readings, Arrow Terminal promptly changed its truck loading operation to reduce emissions, and all subsequent opacity readings in that area were within allowable limits. In addition, USEPA conducted opacity readings at the barge unloading area on September 16, 2014, which were also within allowable limits.

Arrow Terminal has also conducted unofficial readings under Method 22, which demonstrate that fugitive emissions do not leave the property boundaries. Copies of the Method 9 and Method 22 readings are attached as Exhibit D. These readings further substantiate the effectiveness of the alternative measures that Arrow Terminal has implemented.

5) With respect to Section 5.0(5)(b), Kinder Morgan requests an exemption from the requirement to apply dust suppressants when temperatures fall below 32 degrees, noting that chemicals cannot be used as they compromise the product and/or create a health hazard at the steel mill, and that ice causes a safety hazard. However, the request does not specify any special measures to be taken during freezing conditions besides the same BMPs that are employed during warmer weather.

Therefore, please provide detailed information describing the contingency plan that will be implemented if dust is observed and water cannot be applied, including a

greater explanation of the control procedures set forth in the decision tree that is attached to the variance request.

RESPONSE: As stated, the only products that are stored outdoors are pig iron and aggregates. When the temperatures fall below freezing, Arrow Terminal follows all of the same fugitive dust control measures set forth in its Plan, except for spraying the piles with water. Arrow Terminal cannot use chemical dust suppressants when the temperature falls below freezing for several reasons. First, certain chemical dust suppressants contain salt, which will cause the pig iron to corrode much faster. Greater corrosion means the product will create more dust. Second, certain chemical dust suppressants are crusting agents, which will cause the pig iron ingots to stick together. As stated in the Variance Request, pig iron is very heavy. It is not feasible or safe to load pig iron ingots that are crusted together. Third, the chemical dust suppressants will change the chemical make-up of the pig iron. As stated in the Variance Request, the pig iron is shipped to mills to produce steel, and the chemical make-up of the product cannot be altered.

Arrow Terminal notes that when temperatures fall below freezing, the pig iron is generally frozen or covered with snow, so there are no fugitive emissions. If the pig iron is not frozen or covered with snow, and if there are high wind conditions, Arrow Terminal moves the truck loading operations for pig iron indoors. Arrow Terminal has amended its Decision Tree, which is part of the Fugitive Dust Plan, to reflect this change. A copy of the amended Decision Tree is attached as Exhibit E.

Arrow Terminal will respond to Request Nos. 2 and 3 consistent with the agreed upon schedule. Arrow Terminal also reserves the right to supplement its response if additional information becomes available.

Arrow Terminal would be happy to meet with CDPH to go over its fugitive dust control measures and initiatives. Should you require any additional information, or if you have any questions, please do not hesitate to call me at (773) 646-8005 or email me at steven_caudle@kindermorgan.com.

Sincerely,

Steven Caudle
Facility Manager

Cc: Dave Graham, CDPH
Jennifer Hesse, Esq., CDPH
Nancy Van Burgel, Esq., Kinder Morgan
Darren Hunter, Esq., Rooney Rippie & Ratnaswamy LLP

Enclosures