

June 2, 2014

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

To Whom It May Concern:

Thank you for the opportunity to comment on the application of Gulf Sulphur Services Ltd., LLLP (“GSS”), 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 April 23, 2014.<sup>1</sup> These comments are submitted 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, as well as the Southeast Environmental Task Force (“SETF”), an active community group dedicated to improving the Calumet neighborhood’s environment. For the reasons set forth below, the application is incomplete and fails to demonstrate that the requested variances will not have an adverse impact on the community and environment, and thus the request should be denied.

### **Industrial Impacts to City Residents and 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>2</sup> While a significant impetus for the Rules was the clouds of petroleum coke and coal dust from several handlers along the Calumet River, the City appropriately sought to reduce dust from bulk materials more generally, adopting rules that apply

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<sup>1</sup> Gulf Sulphur Services, Ltd., LLLP Request for Variations from Regulations, April 23, 2014, available at [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/VarianceRequestGulfSulphurServicesLtd.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/VarianceRequestGulfSulphurServicesLtd.pdf); City of Chicago, Department of Public Health, Rules and Regulations for the Control of [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/VarianceRequestGulfSulphurServicesLtd.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/VarianceRequestGulfSulphurServicesLtd.pdf); City of Chicago, Department of Public Health, Notice of Variance Application, May 2, 2014, available at [http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental\\_health\\_and\\_food/NoticeVarianceAppSolicitationWrittenCom.pdf](http://www.cityofchicago.org/content/dam/city/depts/cdph/environmental_health_and_food/NoticeVarianceAppSolicitationWrittenCom.pdf) (public comments accepted through June 2, 2014).

<sup>2</sup> Comments of NRDC et al. (“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).

city-wide to handlers of a range of bulk materials. This action represented 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 applications for variances in keeping with the standards set forth in the Rules.

### **Objections to Variance Provisions**

In our prior comments on the City's proposed dust rules, we noted significant concerns with both the vast scope of the variance provision and the lack of procedural safeguards for making variance determinations.<sup>3</sup> We urged the City to dispense with the variance provision altogether, or at minimum to include additional safeguards both in terms of substance and process. The City responded by adding requirements for variance applications, an opportunity for public comment, and criteria for reviewing a variance application.<sup>4</sup>

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 implementation of the variance provision, by holding applicants' demonstrations to high standards and paying close heed to public comments. As the first variance request before the Commissioner under the new rules, GSS's request thus is an opportunity to set the right precedent for other requests moving forward.

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, 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 requirements. 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 should not qualify as grounds for a variance.

### **Review of Variance Standards**

In its variance application, the applicant must describe the process or activity for which the variance is sought, and demonstrate why the variance will not result in a public nuisance or "adversely impact the surrounding area, the surrounding environment, or surrounding property values."<sup>5</sup> The applicant also must explain

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<sup>3</sup> Comments at 38-40.

<sup>4</sup> Rules Section 8.0

<sup>5</sup> Rules Section 8.0(2)(b) and (d).

why compliance would impose an arbitrary or unreasonable hardship.<sup>6</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>7</sup> Because GSS's application falls short in many respects, and due to the inter-relatedness of the sites' components, we urge the Commissioner to deny the variance.<sup>8</sup>

Failing to produce any actual documentation to back up its assertions, GSS offers instead to produce scientific and industrial data upon request from the health commissioner.<sup>9</sup> Without such information included in the present application and materials available for public comment, however, the Commissioner cannot make a valid and defensible determination. As such, it is imperative that the Commissioner both require full disclosure of sources and data within the application and share that data with the public for comment.

### **Provisions from which GSS Seeks a Variance**

The Rules have at their core increasing protections for communities and environmental resources located in close proximity to industrial areas. The GSS facility's massive open storage pile is located immediately adjacent to the Calumet River. Using online mapping tools, it appears that the edge of the closest neighborhood lies under a half mile to the South from the site's open storage pile. In addition, one of the main truck routes serving industrial sources in the so-called Calumet Industrial Corridor goes directly past this neighborhood's north edge, along 126<sup>th</sup> Street. For these reasons, the GSS facility's potential for generating dust pollution should not be taken lightly.

In the following section, we consider GSS's demonstration for each provision from which it seeks a variance and provide an assessment of shortcomings necessitating a denial. We begin with a review of the general assertion that prilled sulphur does not pose the same dust concerns as materials like petroleum coke and coal, and

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<sup>6</sup> *Id.* at (e)(i). While Section 8 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, Dept. of Housing and Economic Development, "Zoning Board Rules and Regulations," August 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>7</sup> See Rules Section 8.0(3)(a).

<sup>8</sup> See Rules Section 8.0(3)(b). At most, the Commissioner should only grant the portions of the variance for which the applicant has provided the requisite supporting information and require supplemental information to be provided moving forward, upon which the variance is conditioned. *Id.* at (3)(c) ("The Commissioner may grant a variance in whole or in part, and may attach reasonable conditions to the variance to ensure minimization of any adverse impacts.")

<sup>9</sup> See Application at 4 and 8.

therefore that facilities that handle prilled sulphur should presumptively not have to comply with many requirements of the new rules.

*Prilled Sulphur and Dust Emissions.* While it may be true that prilled sulphur generally exists in a form that generates less dust than petroleum coke or coal, the application contains no sources by which to judge these claims. GSS instead simply provides several sentences describing the material, with no cited studies or data on dust or PM emissions specific to prilled sulphur, either general or site-specific.<sup>10</sup> Nor does GSS provide the background calculations supporting its proffered PM10 emissions estimate figure for stockpiled prilled sulphur compared to other materials, making it impossible to assess the assumptions used in these calculations. The company also appears to limit its discussion of the dust-generating properties of prilled sulphur to stages soon after formation, neglecting to discuss whether prilled sulphur breaks down with more handling.<sup>11</sup> At least one study supports that increased handling of prilled sulphur results in smaller particles, which would presumably be more prone to becoming airborne.<sup>12</sup> GSS should address whether such break down is expected with its product, and if not, why not. Notably, while GSS discusses Envirobind (a product that supposedly acts as a dust suppressant) and recommendations by DEVCO (the manufacturer of GSS' sulphur forming units), it once again provides no documentation of Envirobind's properties or performance, or DEVCO's recommendations and advice. Nor does it cite portions of an enforceable permit that restrict movement of prilled sulphur once placed on a pile.

Moreover, GSS fails to discuss whether its handling of prilled sulphur has the potential to generate dust if the integrity of the prills is compromised, as when endloaders, trucks or other heavy vehicles or machinery crush prills that have spilled or otherwise been deposited on the ground. The application's description of prilled sulphur handling activities is insufficient to determine whether risk of such spills and crushing exists. For instance, GSS omitted maps of the onsite operations; in addition, the descriptions of working areas, such as locations of conveyors and routes of the front-end loaders used to move the prills, are minimal or missing. We resorted to looking at the site using Google Maps. From this aerial view, it appears that there is track-out of sulphur material in the Northeast corner of the pile, supporting concerns over crushing of the prills.

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<sup>10</sup> See GSS application at 2-3.

<sup>11</sup> See, e.g., Application at 2 to 3 (discussing dust "immediately following being placed into a storage pile" and asserting that "well-formed sulphur prill... has virtually no surface residue (i.e., dust) during its placement on a storage pile..." and that "the sulphur prill stored at the site generally remains stationary until it is ready to be transported off-site...");

<sup>12</sup> See University of Florida, Department of Environmental Engineering Sciences, "Fugitive Dust Control for Phosphate Fertilizer," at 49 ("With increased handling [of prilled sulphur] the size distribution exhibited a distinct shift toward the smaller particle sizes with a corresponding increase in the fraction of small particles...") and 57 (Figure 20, Effect of handling on the size distribution of prilled sulfur), available at [http://www1.fipr.state.fl.us/fipr/fipr1.nsf/129fc2ac92d337ca85256c5b00481502/36ff2d2e780c178f85256b2e005a4842/\\$FILE/01-015-069Final.pdf](http://www1.fipr.state.fl.us/fipr/fipr1.nsf/129fc2ac92d337ca85256c5b00481502/36ff2d2e780c178f85256b2e005a4842/$FILE/01-015-069Final.pdf)

This lack of supporting data and calculations renders the application incomplete and the demonstration inadequate, as all other components of the request are based on this core shortcoming.<sup>13</sup>

*PM10 Monitoring.* As noted in our comments on the rules, where a facility is granted a variance, air quality monitoring is a critical component of demonstrating on an on-going basis that the variance was indeed justified.<sup>14</sup> In addition, because the applicant's argument (a) depends on the unsupported claims regarding dust from prilled sulphur and (b) does not address PM emissions when winds exceed 30 mph, which the applicant recognizes could result in dispersal of prill,<sup>15</sup> the applicant has not demonstrated that PM10 monitoring would impose an arbitrary hardship. We also note that, similar to the claims about prilled sulphur emissions, the applicant provides no supporting information or details on the claimed air quality monitor installation and operating costs.

*Covered/enclosed conveyors.* For similar reasons – the lack of support for both the emissions claims and supposed cost of controls<sup>16</sup> – the applicant has not demonstrated that it qualifies for a variance from the enclosed conveyor requirement. Also, as noted above, it is not possible to assess from the application whether material may spill from open conveyors and be crushed by vehicles, a scenario that would justify enclosing conveyors beyond the potential for wind dispersal directly from the conveyors themselves. GSS also notes that winds above 30 mph would result in dispersal of the prills, and thus enclosed conveyors may be justified for protection under such high wind conditions. Without information on the purported dispersal in relation to wind speed,<sup>17</sup> it is not possible to assess this impact in considering the variance request.

Finally, even accepting the claims about relatively lower dust emissions and the cost of control, the applicant has not demonstrated that the estimated costs are unreasonable relative to the dust controlled and in light of the overall capital invested in the site and site revenues. An additional investment in controls of \$125,000 and operating costs of \$5,000 per year relative to an overall initial facility investment of \$11.5 million on a relatively new facility does not strike us as excessive in and of itself.

*Transfer Points and "Moist" Material.* GSS also fails to provide adequate support for its request for a variance from the provisions of Section 3.0(7) regarding transfer

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<sup>13</sup> Whether GSS has given such material to the City or other permitting agency in some other submission is moot for purposes of the concerns here – without including this information in a complete variance application, the public cannot meaningfully comment.

<sup>14</sup> Comments at 30.

<sup>15</sup> Application at 7.

<sup>16</sup> The applicant does not discuss whether the installation cost estimate is for completely new enclosed conveyors or covering of existing conveyors, or relatedly whether any of the installation cost could be offset by resale of the existing conveyors.

<sup>17</sup> See *infra* at 7

points, specifically that it be allowed to comply by maintaining a moisture content of 2% by weight. Section 3.0(7) provides four alternative mechanisms by which a facility may comply: (a) total enclosure, (b) water spray systems, (c) venting to air pollution equipment, or (d) maintenance of a moisture content of 3%. Here again GSS provides an unsupported cost figure, this time for total enclosure of transfer points, then makes a general assertion that “[c]ompliance with Section 3.0(7) would create an arbitrary hardship because the Regulations fail to take into account the nature of sulphur prill, which generates very little sulphur dust.”<sup>18</sup>

There are at least three problems with this showing. First, as described above, GSS has not adequately supported its assertions about emissions from prilled sulphur, let alone that the difference in emissions between 2% and 3% moisture will be negligible. Second, GSS does not provide any information on the cost estimates by which to judge whether compliance could be achieved at a level below the claimed \$250,000 for enclosure.<sup>19</sup> Third, GSS provides no information on water spray systems or venting to air pollution equipment, two other options for achieving compliance. While in another portion of the application GSS talks about the cost of spray systems, there, too, it omits any supporting information for the estimates and simply cites an alleged upper bound.<sup>20</sup>

*Truck Cleaning - Wheel Wash.* As with other requests, GSS provides thin support for its variance request from the truck cleaning requirements of Section 3.0(8). First and foremost, based on the Google maps photos that we accessed showing track out from the sulphur pile in the Northeast corner, we question the claim that “tractors, trailers, and wheels of GSS’ trucks at the Site are not covered in sulphur dust or residue when leaving or returning to the Site” and thus that “GSS believes it is meeting the goal of this Regulation” given its current manual wash and wheel washing bath procedure.<sup>21</sup> Nor does GSS provide any information on the site configuration and space needs for a rumble strip, or any estimates of costs for either a rumble strip or “more elaborate washing station.”

*Pile Height Limit.* GSS fails to provide adequate support for its request to be allowed a pile height of 42 feet, a substantial increase over the Rules’ 30 foot pile height limit. As discussed below regarding high winds, GSS concedes that prilled sulphur may become wind borne at speeds greater than 30 mph. Also, as stated above, we have concerns that prilled sulphur in storage piles does indeed end up on ground traveled by heavy equipment. Allowing a huge increase in the pile height would likely aggravate both of these conditions (but again the application lacks information to enable an assessment).

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<sup>18</sup> Application at 5.

<sup>19</sup> Notably, GSS claims costs could be “up to” \$250,000, “if not higher.” Application at 5. Such unsupported and open-ended claims of cost burden are insufficient to support a variance request.

<sup>20</sup> Application at 8.

<sup>21</sup> See Application at 5.

Nor does GSS provide any supporting information for its claimed maximum storage capacity or the alleged reduction in capacity under a pile height of 30 feet. The Google maps photo that we accessed shows a single tall pile with a limited footprint, surrounded by what appears to be significant square footage covered by a lower level of sulphur. Without a description of the site and pile configuration for the claimed maximum storage, it is not possible to tell whether the site could be reconfigured to more closely adhere to the 30 foot limit while accommodating more sulphur than the claimed 44,000 long tons.

Moreover, the Application does not show that a full 42 feet is needed to avoid unreasonable impacts. The 75,000 long tons enabled by a pile height of 42 feet is 3,500 tons *over* GSS's current legally binding contractual obligations for which GSS claims it might be in breach if required to comply with the Rules' height limit. Nor does GSS provide any figures regarding tonnages and impacts to business at heights between 30 and 42, so as to determine whether it can operate profitably at lower capacity than the requested 42 feet pile height.

Finally, GSS does not propose any additional controls at the significantly taller piles to mitigate emissions during high wind events. The South Coast Air Quality Management District's Rule 1158 allows prilled sulphur at existing facilities to be stored in outdoor piles, but only if a facility has an approved open storage pile plan or employs a three-sided barrier of a height equal to the pile, spray system, chemical dust suppressant, temporary cover, or other equivalent measure.<sup>22</sup>

*Setback from Water.* For the reasons set forth in these comments regarding the lack of support for claims about emissions and concerns with dust during wind events exceeding 30 mph, the setback variance request is unsupported. Moreover, GSS provides no information on the amount of revenue it would lose from complying with the setback requirement, and indeed concedes that it will comply with the setback when the storage capacity of the piles is at "average" levels. GSS instead simply claims that it needs the additional flexibility to exceed the setback standard to make the site "economically viable."<sup>23</sup> Since this general and unsupported claim could be made by any operator seeking to avoid the setback requirement (or any requirement), GSS has not demonstrated that it is faced by any special circumstances regarding economic impact that would justify a variance from the setback requirement.

*High Winds.* As noted above, in its request for a variance from the 15 mph high wind provision, GSS concedes that prilled sulphur "is unlikely to become airborne unless winds exceed 30 mph...". As with other requests, the high wind variance request is not accompanied by any sources or data supporting the assertions about dust from prilled sulphur at different wind speeds. This information is critical to determining whether compliance with the 15 mph level is warranted, or if not which wind speed is the proper alternative that will pose minimal impact to the public. In addition, as

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<sup>22</sup> See SCAQMD Rule 1158 at (e)(3).

<sup>23</sup> Application at 6.

noted above, this request concedes that prilled sulphur will become airborne at speeds exceeding 30 mph, which in all likelihood do periodically occur at the site.<sup>24</sup>

*Dust Suppressant System.* As with the other variance requests, the request to avoid a dust suppressant system makes unsupported assertions both about relative dust levels and cost.

### **Miscellaneous**

The Commissioner should give little to no weight to GSS' assertion that it has not received any complaints from neighbors to date, as the status quo conditions at the site cannot inform a determination of the risks the site poses at full capacity for purposes of this variance process.<sup>25</sup> As stated in the application, the current ***annual throughput*** for the facility is approximately 10,000 long tons.<sup>26</sup> GSS claims to be obliged to store more than 70,000 long tons simultaneously.<sup>27</sup> Thus, GSS currently approaches only one seventh of its full storage potential.

For these reasons, we respectfully request that the Commissioner deny this application for a variance. Please do not hesitate to contact us if you have any questions.

Sincerely yours,

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<sup>24</sup> Weather Underground reports that Midway Airport in August 2013 experienced winds up to 44 mph and wind gusts of up to 54 mph, with monthly average wind gusts at 21 mph. See Weather Underground, "Weather History for Chicago Midway, IL," available at <http://www.wunderground.com/history/airport/KMDW/2013/8/6/MonthlyHistory.html>.

<sup>25</sup> Application at 1.

<sup>26</sup> Application at 2.

<sup>27</sup> Application at 6.