

# State Office of Administrative Hearings



Shelia Bailey Taylor  
Chief Administrative Law Judge

January 31, 2006

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General Counsel  
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PO Box 13087  
Austin Texas 78711-3087

CHIEF CLERKS OFFICE

2006 JAN 31 PM 1:12

TEXAS  
COMMISSION  
ON ENVIRONMENTAL  
QUALITY

Re: SOAH Docket No. 582-05-1040; TCEQ Docket No. 2004-0839-AIR; Application by Southern Crushed Concrete, Inc., to Change the Location of a Concrete Crushing Facility in Harris County

Dear Mr. Seal:

The above-referenced matter will be considered by the Texas Commission on Environmental Quality on a date and time to be determined by the Chief Clerk's Office in Room 201S of Building E, 12118 N. Interstate 35, Austin, Texas.

Enclosed are copies of the Proposal for Decision and Order that have been recommended to the Commission for approval. Any party may file exceptions or briefs by filing the original documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than February 21, 2006. Any replies to exceptions or briefs must be filed in the same manner no later than March 3, 2006.

This matter has been designated **TCEQ Docket No. 2004-0839-AIR; SOAH Docket No. 582-05-1040**. All documents to be filed must clearly reference these assigned docket numbers. Copies of all exceptions, briefs and replies must be served promptly on the State Office of Administrative Hearings and all parties. Certification of service to the above parties and an **original and eleven copies** shall be furnished to the Chief Clerk of the Commission. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

A handwritten signature in black ink, appearing to read "Craig R. Bennett".

Craig R. Bennett  
Administrative Law Judge

CRB/lr  
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cc: Mailing List

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2004 JUN 31 PM 1:12

TEXAS  
COMMISSION  
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**AGENCY: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)**

**STYLE/CASE: APPLICATION BY SOUTHERN CRUSHED CONCRETE, INC., TO CHANGE THE LOCATION OF A CONCRETE CRUSHING FACILITY IN HARRIS COUNTY**

**SOAH DOCKET NUMBER: 582-05-1040**  
**TCEQ DOCKET NUMBER: 2004-0839-AIR**

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**STATE OFFICE OF ADMINISTRATIVE HEARINGS**

**CRAIG R. BENNETT  
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**SOAH DOCKET NO. 582-05-1040  
TCEQ DOCKET NO. 2004-0839-AIR**

<b>APPLICATION BY SOUTHERN</b>	§	<b>BEFORE THE STATE OFFICE</b>
<b>CRUSHED CONCRETE, INC., TO</b>	§	
<b>CHANGE THE LOCATION OF A</b>	§	<b>OF</b>
<b>CONCRETE CRUSHING FACILITY IN</b>	§	
<b>HARRIS COUNTY</b>	§	<b>ADMINISTRATIVE HEARINGS</b>

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SOAH DOCKET NO. 582-05-1040  
TCEQ DOCKET NO. 2004-0839-AIR

APPLICATION BY SOUTHERN §  
CRUSHED CONCRETE, INC., TO §  
CHANGE THE LOCATION OF A §  
CONCRETE CRUSHING FACILITY IN §  
HARRIS COUNTY §

BEFORE THE STATE OFFICE  
OF  
ADMINISTRATIVE HEARINGS

2005 JUN 21 11:12  
OFFICE OF CLERKS  
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PROPOSAL FOR DECISION

I. INTRODUCTION

Southern Crushed Concrete, Inc. (Applicant) filed an application to change the location of an existing portable concrete crushing facility in Harris County. Applicant seeks to have the portable crusher, which was permitted in 1999, moved from Applicant's Gasmer yard to another property owned by Applicant located near the intersection of Bellfort Avenue and State Highway 288 (288 Yard). In response to numerous requests for hearing, the Texas Commission on Environmental Quality (TCEQ or Commission) referred the matter to the State Office of Administrative Hearings (SOAH) for a hearing.

The following were recognized and admitted as parties to this proceeding: (1) Applicant; (2) Citizens Against Southern Crushed Concrete (CASCC); (3) the City of Houston (Houston); (4) Harris County (HC or Harris County); (5) Texas Pipe and Supply Company, Ltd. (Texas Pipe); and (6) the Office of Public Interest Counsel (OPIC). No other persons or entities sought party status. Because CASCC and Texas Pipe were represented by the same counsel and filed joined briefing, they are collectively referred to as Protestants.

After considering the evidence and arguments presented, the Administrative Law Judge (ALJ) is persuaded that the operation of the facility will not create a nuisance, does not present a risk of adverse health effects, and will not have an adverse effect on air quality. Therefore, the ALJ recommends that the application be granted with certain additional restrictions.

## II. BACKGROUND

Applicant owns and operates concrete crushing facilities. At these facilities, Applicant crushes broken concrete rubble from the demolition of roadways, buildings, and other structures, converting the resulting product into crushed concrete that can be used in construction. Applicant owns or leases at least 11 concrete crushing yards and operates five portable concrete crushers in the greater Houston area.<sup>1</sup>

In 1999, Applicant received Air Quality Permit No. 40072 from the Commission to construct and operate the portable concrete crushing facility sought to be moved in this case.<sup>2</sup> Since being permitted, Applicant has operated this concrete crushing operation at its Gasmer yard in southwest Houston. In October 2003, Applicant applied to the Commission for approval to move the concrete crushing facility to its 288 Yard, a 58-acre tract of land that Applicant owns in south Houston, near the intersection of Bellfort Avenue and State Highway 288. The area around the 288 Yard is generally industrial, including pipe yards, a pipe cement coating operation, a gas terminal, an industrial steel recycling site, a closed incinerator and landfill, and undeveloped land.<sup>3</sup> The proposed crushing facilities at the 288 Yard would be located more than 7,000 feet from the nearest school, 3,000 feet from the nearest residence,<sup>4</sup> and 5,300 feet from the nearest house of worship.<sup>5</sup>

Although not currently in operation as a crushing facility, the 288 Yard has accepted broken concrete and developed a raw material stockpile. This stockpile is approximately 500 feet long, 150

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<sup>1</sup> App. Ex. 51, at 3. Applicant does not operate crushers at all 11 yards simultaneously; rather, Applicant has five crushers in operation at any one time, and those crushers are moved from yard to yard as needed. Prior to the movement of the crushers, Applicant is required to notify and obtain the approval of the Commission.

<sup>2</sup> App. Ex. 22; HC Ex. 23. Permit 40072 was issued for the crusher itself, whereas the permit sought in this case—Permit 70136L001—is for the particular location in issue, to allow the crusher to be operated at that location.

<sup>3</sup> App. Ex. 51, at 12.

<sup>4</sup> The closest residences are the Reed Parque Apartments. There are no houses within a mile of the facility.

<sup>5</sup> App. Ex. 51, at 16; App. Ex. 50, at 6-7.

feet wide, and 40 feet high.<sup>6</sup> If permitted, concrete crushing operations at the 288 site will be similar to those at Applicant's other sites.<sup>7</sup> First, a raw material stockpile is accumulated. Then, Applicant transports the material a short distance by front-end loader and dumps the material into a feed hopper for the primary crusher. Primary crushing reduces the material to a maximum size of 6" to 7". Non-concrete materials (such as steel rebar) are removed by Applicant's employees, and also by a magnet, upon output from the primary crusher. Then, the material passes over a screen, where pieces smaller than 1.5" pass onto a conveyer belt and are transported to the finished materials stockpile.

Pieces that do not fall through the screen go to the secondary crusher, a cone crusher that reduces the pieces to smaller than 1.5" and transports them back over the screen to drop onto the conveyor belt to be shipped to the finished materials stockpile. From there, finished materials are transported by front-end loader into trucks that haul the materials away for use in construction projects off-site. Throughout the crushing process, Applicant's portable crushers have automatic water sprayers that continually spray the crushed concrete materials as the crushers are operated, to limit the emission of particulate matter. Further, Applicant maintains a dedicated on-site water truck to spray the stockpiles and other areas as needed to limit particulate emissions.

After Applicant submitted its request to change the location of the portable concrete crusher in issue, the ED issued a draft permit approving the requested change of location. The ED made no changes to the draft permit in response to public comment. Numerous parties submitted requests for hearing and, in October 2004, the Commission referred the matter to SOAH for a contested case hearing. A preliminary hearing was held on December 16, 2004, at which time jurisdiction was established and the parties were identified and admitted. The hearing on the merits was originally scheduled for April 19, 2005, so as to allow this case to be returned to the Commission within the deadline established in the Interim Order. However, the hearing was continued numerous times

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<sup>6</sup> App. Ex. 51, at 14.

<sup>7</sup> The following description of Applicant's concrete crushing operations is taken from App. Ex. 51, at 4-8, and is also described in Applicant's *Closing Arguments*, at 6-8.

because State Representative Al Edwards, who is the designated representative of CASCC and a witness in this proceeding, was required to be in Austin for the 2005 legislative session and two subsequent special legislative sessions. The hearing was conducted on September 19-21, 2005, in Houston, Texas. Following the submission of written closing arguments, the record closed on December 2, 2005.

### III. CONTESTED ISSUES

In referring this matter to SOAH, the Commission identified the following six issues to be addressed in the hearing:

- 1) Would operation of the facility have an adverse effect on the health of the requesters who live within one mile of the facility?
- 2) Would operation of the facility adversely affect the ability of the requesters to use and enjoy their property or cause damage to the requester's property?
- 3) Would operation of the facility have an adverse effect on air quality?
- 4) Whether or not the Applicant's emissions calculations and modeling are accurate?
- 5) Is a stockpile limitation necessary and are stockpile emissions adequately addressed in the permit conditions?
- 6) Whether or not the record keeping requirements set forth in the draft permit are sufficient to enable enforcement?

The ALJ addresses each of these issues in detail below. Because the fourth issue (*i.e.*, whether Applicant's emissions calculations and modeling are accurate) has such a significant impact on most of the other issues, the ALJ addresses it first. Then, the ALJ discusses the remaining issues in sequential order.

#### IV. DISCUSSION AND ANALYSIS

##### A. Whether or not the Applicant's Emissions Calculations and Modeling are Accurate?

This is the most significant issue presented. Emissions calculations are critical in an air permit case like this because they are the method by which one determines the likely worst impact on the environment and public health if a permit is granted. In analyzing the application, the Commission must look at the projected impacts and compare them to the applicable state and federal air quality standards. The Environmental Protection Agency (EPA) and the Commission have established modeling algorithms so that uniform modeling can be conducted by applicants to determine the projected emission levels of various pollutants.

Of relevance in this case is particulate matter (PM), the air pollutant most likely to result from this facility. Both state and federal guidelines apply to particulate matter. The National Ambient Air Quality Standards (NAAQS) govern emissions of particulate matter of 10 micrometers or less (PM<sub>10</sub>) and 2.5 micrometers or less (PM<sub>2.5</sub>).<sup>8</sup> Emissions less than the NAAQS are presumed to be protective of public health. Further, state property-line standards address the emission of total suspended particulate (TSP) matter.<sup>9</sup> Emissions that are less than the state property line standards are presumed to not create a nuisance condition of excessive particulate matter. Both the NAAQS and the state property line standards are addressed by the modeling submitted in support of the permit application and during the contested case proceeding.

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<sup>8</sup> 40 C.F.R. §§ 5.06 and 5.07, adopted by reference at 30 TEX. ADMIN. CODE § 101.21.

<sup>9</sup> The ALJ takes official notice of the fact that, on November 9, 2005, the Commission directed its staff to move forward with a proposed repeal of 30 TEX. ADMIN. CODE § 111.155, which contains the net ground level concentration standards for total suspended particulate. **(Any party objecting to the ALJ's taking of official notice may file their objection as an exception to the PFD).** The preamble to the proposed rulemaking revoking the standards states that the standards are "not based on good science" and are not "current and necessary." Thus, the Applicant contends that the TSP standards subject to potential repeal should not be used as a basis of evaluation in this case. The other parties disagree, arguing that the standards are still in effect and were in effect at all times during the hearing. Ultimately, the ALJ applies the TSP standards because they remain in effect at this time. However, the ALJ concludes that the more reliable modeling demonstrates no exceedance of the existing TSP standards anyway, so the issue has no impact on the ultimate recommendation in this case.

The modeling methods for determining PM emissions take into account the different sources of such matter at a proposed facility and look at different time periods. For example, the NAAQS provide standards for annual and 24-hour  $PM_{10}$  and  $PM_{2.5}$  emissions. The state property-line standards also provide limits for one-hour and three-hour measuring periods.<sup>10</sup> Because particulate matter emissions can result not just from the concrete crushing itself, but also from the roads and stockpiles at the site, an applicant must appropriately take into account these sources when conducting modeling. This is where the primary dispute between the parties arises in this case.

The Applicant contends its modeling is accurate and shows no adverse effects to the environment, public health, or to the use and enjoyment of property around the proposed site. Other parties disagree, contending that Applicant's modeling does not correctly take into account road and stockpile emissions, and that accurate modeling would show there is a potential for harm to the environment, the health of the public, and to the use and enjoyment of property around the site. More specifically, Protestant expert Michael Hunt concluded that the one-hour and three-hour state property-line standards for TSP would be exceeded by the proposed facility. Further, Harris County's toxicology expert, Dr. Lucy Fraiser, determined that, although all experts' modeling showed compliance with existing NAAQS, Mr. Hunt's modeling showed the facility would exceed new NAAQS standards for  $PM_{2.5}$  emissions proposed by EPA staff, thus causing the potential for harm to public health. The modeling differences that lead to these conclusions are identified below.

### **1. Road Emissions**

One significant area of difference is in regard to the proper methods for including road emissions in the modeling calculations. Essentially, the opposing parties<sup>11</sup> raise three primary arguments regarding road emissions, contending that: (1) Applicant erred by using an unpaved road factor as the basis for modeling road emissions; (2) Applicant failed to include road emissions at all

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<sup>10</sup> See 30 TEX. ADMIN. CODE § 111.155

<sup>11</sup> Because Protestants, City of Houston, Harris County, and OPIC all oppose the application and generally agree in their arguments, they are collectively referred to as the "opposing parties."

when conducting short-term (i.e., 24-hour, 3-hour, and 1-hour) modeling; and (3) Applicant erred by adding in control factors for paved roads at the site, when such roads are not in fact paved. These arguments are each discussed separately below.

**a. Paved Road Versus Unpaved Road Calculations**

All parties agree that the EPA has provided guidance for the most reliable calculation of PM road emissions, and that guidance is found in EPA document AP-42. That document provides different calculations and considerations based upon an analysis of emissions from paved and unpaved roads. There is no dispute that Applicant used the AP-42 method for unpaved roads (the unpaved road factor), but then added a separate control factor for roads it considered to be paved. The opposing parties assert this was not proper. Because many of the roads at the site are either paved or comparable to paved roads, the opposing parties argue that Applicant should have used the AP-42 method for paved roads (the paved road factor). At a minimum, the opposing parties contend that Applicant should have done calculations that adequately included both the paved road factor and the unpaved road factor, based upon the different nature of the roads at the site.

Applicant responds that it correctly used the unpaved road factor in determining road emissions at the site, because the unpaved road factor better fits the circumstances that will exist on the haul roads at the proposed facility. Applicant expert Tim Prince testified that the paved road emission factor was developed using freely-flowing vehicles traveling at speeds of 10-55 miles per hour (mph), while the unpaved road factor was developed in consideration of vehicles traveling as slowly as 5 mph. Applicant contends that vehicles traveling on the haul roads at its proposed facility will be limited to speeds not to exceed 6 mph, thus equating more similarly to the conditions on which the unpaved road factor is based. Applicant points out that the EPA guidelines caution against applying the AP-42 paved road emission factor "to roadways or road networks with speeds below 10 mph and with stop-and-go traffic."<sup>12</sup>

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<sup>12</sup> Prot. Ex. 2, at 13.2.1-5.

After considering the evidence presented, the ALJ finds that Applicant correctly used the unpaved road factor for calculating road emissions at the 288 Yard. First, the paved road factor was not developed with empirical data from concrete crushing facilities, but was developed from roads generally having higher speeds of traffic and different characteristics. The EPA's background information states that, in developing the AP-42 paved road factor, "all sources tested were of freely flowing vehicles traveling at constant speed on relatively level roads" with a mean vehicle speed of 10 to 55 miles per hour.<sup>13</sup> As such, the ALJ believes that Mr. Prince's decision to use the unpaved road factor (with a paved road control factor when appropriate) was a sound one because the roads and traffic at the 288 Yard are not expected to match the conditions on which the paved road factor is based. Vehicles entering the site will be traveling at a relatively low speed, and will stop numerous times throughout the trip into the site (at the scale station, at the materials stockpile, and turning around to exit the site).<sup>14</sup> In fact, the longest uninterrupted stretch of road at the site is approximately 400-450 feet long. Given the evidence, the ALJ is persuaded that traffic at the site will be more of a stop-and-go nature, the type of traffic for which the paved road factor is not appropriate.

Further, the Commission has previously recognized and allowed the use of the unpaved road factor to predict emissions from concrete facilities. Mr. Hunt testified that, in two prior air permitting cases before the Commission, he has recommended that the AP-42 paved road factor be used to calculate paved plant road emissions, but the Commission rejected his recommendations and instead allowed the applicant to use the AP-42 unpaved road factor.<sup>15</sup>

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<sup>13</sup> Prot. Ex. 2, at 13.2.1-5 to 13.2.1-6.

<sup>14</sup> The ALJ shares the opposing parties' skepticism that vehicles traveling on-site will not exceed a speed of six mph, but still concludes that vehicle speeds at the site will be relatively slow, given the stop-and-go nature of travel at the site and the limited length of road on which to build up speed. Moreover, Applicant's willingness to insert a permit condition of (and post signs regarding) a six-mph speed limit creates an enforceable permit requirement that may provide further reason to ensure that vehicle traffic will be slower in nature.

<sup>15</sup> Tr. at 320-321. The cases involved Frontier Materials (SOAH Docket No. 582-01-2303) and Ingram Ready Mix (SOAH Docket No. 582-98-1009).

Similarly, the Commission's own Concrete Batch Plant draft guidelines allow for the use of the unpaved road factor, with the use of a control efficiency factor for roads that are paved.<sup>16</sup> At the hearing, Mr. Hunt acknowledged the shortcomings of using the AP-42 paved road factor. He gave the use of the paved road factor a "D" (below average) rating and, in regard to predicting PM<sub>2.5</sub> emissions, an "E" (poor) rating. Thus, even though he recommends using the paved road factor, he also appears to recognize that it is a relatively poor predictor of emissions at this particular site. Therefore, for the reasons stated above, the ALJ concludes that Applicant's modeling appropriately included the AP-42 unpaved road factor.

**b. Exclusion of Road Emissions from Short-Term Modeling**

The opposing parties also fault Applicant's modeling because it did not include road emissions in short-term calculations. Mr. Prince included emissions from haul roads at the facility only for his annual averaging periods. The opposing parties argue that this was improper and that more accurate modeling data is obtained if roads are included in calculating short-term emissions (*i.e.*, 1-hour, 3-hour, and 24-hour) as well. Mr. Hunt included road emissions in his short-term emissions calculations on behalf of the Protestants. In doing so, his modeling predicted an exceedance of the 1-hour and 3-hour state property-line standards for TSP.

In response, Applicant points out that it followed TCEQ guidance in conducting its modeling. In particular, the TCEQ's *Air Quality Modeling Guidelines* state that "in general, do not include road emissions in permit modeling analyses for short-term averaging periods—periods less than annual."<sup>17</sup> Applicant notes that the reason behind this guidance, as stated in TCEQ documentation supporting the guidance, is that there are "no reliable calculation methods for shorter periods (24-hour, 3-hour, 1-hour)." According to Applicant, if site roads are included in calculating short-term emissions, then the modeling calculations become unreliable, overstating emissions significantly.

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<sup>16</sup> App. Ex. 30, at 46.

<sup>17</sup> App. Ex. 23, at 58-59.

The ALJ agrees with Applicant that it was proper for Applicant's short-term modeling to not include road emissions because the TCEQ's guidelines are clear that roads should not ordinarily be included in modeling. These guidelines are further supported by a February 2000 memo from John Steib, TCEQ's Director of Air Permits Division at the time, regarding the ED's policy for road emissions evaluations. In that memo, Mr. Steib indicated that, in conducting air permit analysis:

"Road dust emissions should be calculated and impacts evaluated for long-term periods (annual) only. Since there is no reliable calculation methods for shorter time periods (24-hour, 3-hour, 1-hour), emission from road dust should not be calculated or impacts analysis performed. Instead, all project reviews should include the application of Best Management Practices (BMP) to minimize the creation of road dust and prevent nuisance conditions. This practice follows previous precedent and current guidance from the Commissioners . . ." <sup>18</sup>

Applicant followed that guidance and produced modeling results that were accurate and consistent with the methodology employed. Those modeling results showed no exceedance of the state property line standards.

However, even if modeling is used that includes site roads, the ALJ does not find that there will be a violation of state property-line standards. On rebuttal, Applicant's expert presented additional modeling that included roads in short-term modeling, but also included greater control factors related to roads. This modeling showed no exceedance of the state property-line standards. This additional modeling varied from that conducted by Mr. Hunt in that it included control factors for wet sweeping and vacuuming on the main entrance/exit road, while Mr. Hunt's modeling did not. <sup>19</sup> This is significant, because if roads are to be included in modeling then all applicable control factors should also be applied, provided the evidence shows those control factors will exist at the site.

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<sup>18</sup> App. Ex. 32, at 1.

<sup>19</sup> Tr. at 527-532.

In this case, the evidence does support the control factors used by Applicant. In particular, the evidence demonstrates that the paved main entrance/exit road at the site will be wet swept and vacuumed (thus justifying the use of a 99% control factor for emissions from the main entrance/exit road, versus the 95% control factor for watering only).<sup>20</sup> Applicant has agreed to the inclusion of a permit requirement for wet sweeping and vacuuming to further support the use of the higher control factor in Applicant's modeling, and the ALJ recommends that such a requirement be imposed by the Commission.<sup>21</sup>

Therefore, after reviewing all modeling and testimony presented, the ALJ finds that Applicant properly excluded haul road emissions from its short-term modeling. Moreover, even if road emissions are included in the modeling, the ALJ finds Applicant's modeling on rebuttal to be more persuasive than that presented by Mr. Hunt and concludes that the 1-hour and 3-hour property line standards for TSP will not be exceeded.

**c. Use of Control Factors for Predicting Road Emissions**

As noted above, Applicant used the AP-42 factor for unpaved roads when calculating expected emissions at the 288 Yard. However, in its modeling, Applicant also applied a control factor for paved roads, contending that this was a proper adjustment to account for the type of roads at the site. Applicant alleges this method is consistent with TCEQ guidance for air modeling. The opposing parties do not dispute that this is the method identified in TCEQ guidelines, but assert that this method has not been shown to have a proper scientific basis and does not result in the most reliable modeling in this case.

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<sup>20</sup> The control factors come from the Commission's Concrete Batch Plant guidelines. App. Ex. 30, at 46. In their closing briefing some parties apparently misunderstood the testimony about the application of control factors, believing the 99% factor applied to all roads at the site. The evidence indicates that Applicant applied a control factor of 99% for the main entrance/exit road (which is paved and will be vacuumed), but only 95% for other plant roads that will be paved with a milled asphalt (instead of a hot-mix asphalt) and watered. *See* Tr. at 530-531.

<sup>21</sup> Tr. at 91-92.

The opposing parties argue that the plant roads at the site will not be paved in the generally accepted sense of the term and, therefore, Applicant should not be allowed to apply a paved road control factor.<sup>22</sup> It is undisputed that Applicant will use three different types of road surfaces on its plant roads: concrete, hot-mix asphalt, and milled asphalt. The parties all agree that concrete and hot-mix asphalt roads are considered "paved." However, the parties disagree on whether milled asphalt roads (consisting of loose milled asphalt laid down and compacted by pressure) are considered "paved."

The opposing parties argue that the milled asphalt roads are unpaved. In support of their position, the opposing parties rely on the testimony of Elizabeth Guynn, a Pollution Control employee for Harris County. Ms. Guynn testified she is familiar with the type of milled roads to be used at the site. She further testified that such milled material would not create a cohesive paved surface, but would instead break up under heavy traffic, thus resulting in higher emissions than would be expected from a paved road.<sup>23</sup> Moreover, the opposing parties cite to the testimony of Applicant's operations manager, James Miller, Jr., who described the milled roads as having the appearance of a "country gravel road."<sup>24</sup>

Applicant responds that the roads will be paved with asphalt, just not with a hot-mix. Rather, the milled asphalt will be laid cold and compacted until it becomes cohesive and is impermeable to water. This will allegedly comply with the permit condition that requires that "Plant roads shall be paved with a cohesive hard surface which can be cleaned by sweeping or washing."<sup>25</sup> Applicant urges that, if the milled material does not qualify as a cohesive paved material, then the appropriate regulatory authorities will certainly have authority to come in and require a different type of paved

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<sup>22</sup> The Protestants also find it inconsistent for the Applicant to use the AP-42 factor for unpaved roads (which results in lower emissions predictions), but then turn around and contend that the plant roads are "paved" for purposes of applying the most beneficial control factors.

<sup>23</sup> Tr. at 446.

<sup>24</sup> Tr. at 698-699.

<sup>25</sup> App. Ex. 8, at 2.

surface. Applicant asserts the milled material will be sufficiently compact and cohesive to be considered a paved road, will show no signs of degradation, and will be capable of being washed with water. In fact, Applicant notes that it has used this same type of road at its Chrisman Road site since 1995, without having to replace it or do any major repairs. As such, Applicant argues that such roads are considered “paved,” thus it is appropriate to apply the Commission’s control factor for paved and watered roads in analyzing emissions from these roads.

Ultimately, the ALJ concludes that it is proper for Applicant, in its modeling, to apply a control factor for the plant roads as being paved and watered. What is particularly pertinent here is that the proposed permit requires the plant roads to be “paved.” Similarly, it is the TCEQ guidelines that set out the control factors for “paved” roads. Therefore, even if there is some ambiguity in what the term “paved” means, it should be consistently interpreted between the permit and the Commission’s guidelines. Therefore, barring some indication that Applicant does not intend to comply with the permit requirement for paved roads at the site, it is proper for Applicant’s modeling to reflect control factors for the paved roads that are required under the permit.

So, the ALJ turns to the evidence to see if there is a basis for concluding that Applicant does not intend to comply with the requirement for “paved” roads at the site. The parties have not offered a clear and generally accepted definition of the term “paved.” And, unfortunately, the ED did not participate as a party in this case and has not offered any evidence as to the generally accepted meaning of the term “paved” for enforcement or air permitting purposes. A dictionary definition for “paved” indicates it is to “cover with pavement” and further describes pavement as “a hard smooth surface . . . that will bear travel.”<sup>26</sup> The evidence in this case is clear that the plant roads will consist of either asphalt or concrete. For the concrete or hot-mix asphalt roads, no one disputes they are “paved.” So, the only question is whether cold, compacted asphalt can be considered pavement. The ALJ believes that it can be.

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<sup>26</sup> THE AMERICAN HERITAGE® DICTIONARY OF THE ENGLISH LANGUAGE (4<sup>th</sup> ed. 2000).

Ms. Guynn testified that milled material is not a hard bonded substance, but instead will break up under heavy traffic. She based her testimony on her observations of other concrete crushing facilities with milled material roads. However, there is no evidence in the record that those facilities used the same type of material or compaction process that will be used at the 288 Yard. In contrast, Mr. Miller testified that the material and process to be used at the 288 Yard had been previously used at the Chrisman Road site and the roads there had held up for approximately 10 years without needing to be replaced or having major repairs.<sup>27</sup> Further, he testified that the milled asphalt road would be compacted to a point that it formed a hard, cohesive, and impermeable surface.<sup>28</sup>

The opposing parties have pointed to Mr. Miller's testimony that the milled asphalt would look like a country gravel road as an indication that the road will not be paved in the accepted sense of that word. However, the entirety of his answer was:

It will look like a country gravel road or a one-course surface treatment, I call it. Very similar to the parking lot out here. It'll be smooth and it will be black and it will be hard, but it won't be as hard as the – as the asphalt itself.<sup>29</sup>

In its entirety, his answer does not leave the impression that the road will simply be a loose accumulation of asphalt particles or materials. As discussed elsewhere in his testimony, the roads are approximately two feet thick, with a base of approximately 18 inches of concrete rubble, then six inches of milled concrete, topped off by three inches of milled asphalt that is laid down and rolled with a roller to compact it to form an impermeable road surface.<sup>30</sup> In the entirety, his testimony clearly describes a surface that will appear very similar to that contained in the dictionary description for pavement—a hard smooth surface for bearing travel.

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<sup>27</sup> Tr. at 700-701.

<sup>28</sup> Tr. at 697-698, and 717.

<sup>29</sup> Tr. at 698.

<sup>30</sup> Tr. at 698-699.

Given that Mr. Miller's testimony indicates that the milled asphalt roads at the site will have the qualities associated with pavement, it is fair to conclude that, in the absence of a different definition of "paved," the evidence indicates Applicant intends to comply with the permit requirement for paving the plant roads at the site. As such, Applicant correctly applied control factors for paved roads in its emissions modeling.

## 2. Stockpile Emissions

The opposing parties argue that Applicant's modeling is fatally flawed because it does not adequately account for stockpile heights in calculating the amount of emissions from stockpiles. Specifically, in determining emissions from stockpiles, Applicant's expert witness looked at the footprint of each stockpile and used the two-dimensional area of the footprint to estimate stockpile emissions. The opposing parties argue that this method results in an under-prediction of emissions, because increases in stockpile heights can result in additional emissions that will not be captured by Applicant's modeling. For example, Protestants' expert testified that if stockpile heights are increased and total throughput of material at the site is doubled, stockpile emissions will stay the same under Applicant's modeling, provided the stockpile footprint is unchanged. According to the opposing parties, this flaw renders Applicant's modeling unreliable and insufficient to meet Applicant's burden of proof in this case.

Applicant responds by noting that it followed TCEQ's draft *Rock Crushing Plants* guidelines in conducting its modeling for stockpile emissions. Those guidelines indicate that stockpile emissions are determined by looking at the size of each stockpile (as shown by the area of the footprint) and the number of active days per year at each stockpile.<sup>31</sup> Mr. Prince testified that this is a generally reliable method for calculating stockpile emissions because increases in stockpile height will not have a significant impact on emission rates.<sup>32</sup> Moreover, Mr. Prince testified that the

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<sup>31</sup> App. Ex. 24, at 11.

<sup>32</sup> Tr. at 202-203.

calculations are already somewhat conservative because they assume an entire stockpile footprint is active, whereas the likely scenario is that only a portion of each stockpile will be active at any given time.<sup>33</sup>

Further, Applicant disagrees with the opposing parties' contention that, under the Applicant's method of calculation, increases in stockpile height and throughput will not affect emission rates. Applicant argues that Protestants' expert based his allegation on incorrect assumptions, comparing a maximum allowable emissions rate table from a prior draft permit (not in this case) to the proposed permit in this case. The prior draft permit showed total throughput of 210,000 tons per year, with stockpile emissions of 1.25 tons per year of TSP and 0.63 tons per year of PM<sub>10</sub>. In this case, the proposed permit shows total throughput of 400,000 tons per year (nearly double the 210,000 in the draft permit) but has the same stockpile emissions (1.25 tons per year of TSP and 0.63 tons per year of PM<sub>10</sub>). Applicant argues that the issued permit is what must be relied upon, not a draft permit,<sup>34</sup> and notes that an actual permit that was issued with a throughput of 210,000 had lower calculated stockpile emissions (1.110 tons per year of TSP and 0.555 tons per year of PM<sub>10</sub>) than that shown on the proposed permit in this case for 400,000 tons per year of total throughput. Accordingly, Applicant contends that changes in the total throughput will change the emissions calculations for stockpiles, thus making the opposing parties' concerns invalid.

The ALJ is not persuaded by any of the various arguments regarding the comparison of the different draft and issued permits. First, Applicant has not shown that the two issued permits it cited are comparable, because it is unclear that the two permits dealt with stockpiles of the same footprint size, making it difficult to know whether the emissions calculations are comparable. Moreover, Protestants' expert's testimony that referenced the comparison of the two rates did not contain any calculations to show that the reflected numbers were accurate. If, as Applicant implies, the numbers in the draft permit were not accurate, then Mr. Hunt's criticism on this point lacks a proper foundation. Given the uncertainties surrounding the different emissions shown in the various draft

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<sup>33</sup> Tr. at 200.

<sup>34</sup> Although not clearly stated, it appears Applicant is implying the draft permit calculations were incorrect.

and issued permits cited by the parties, the ALJ finds the evidence on this point to generally be irrelevant.

What would be relevant is an actual analysis of the projected stockpile emissions and calculations showing there would be a significant difference in emissions if stockpile height is factored in under different scenarios. Unfortunately, no party offered such an analysis. Therefore, all the ALJ is left with is testimony from two experts, one saying stockpile height makes a significant difference in emissions while the other says it does not. Given that TCEQ's draft guidelines for estimating stockpile emissions do not take into account stockpile height, the ALJ is inclined to agree with Applicant's expert that stockpile height does not have a significant impact on emissions.

After considering the evidence, the ALJ concludes that Applicant's modeling of stockpile emissions was properly performed and adequately accounts for anticipated emissions from stockpiles at the 288 Yard. There is no dispute that Applicant followed the TCEQ's draft guidelines in calculating expected stockpile emissions, and no parties have presented alternate stockpile emissions calculations showing higher emissions than those projected by Applicant, if stockpile height is taken into account. Rather, the opposing parties merely contend Applicant has not met its burden of proof because of the alleged inadequacies in the method for estimating stockpile emissions. Given the other conservative factors built into the calculations and the testimony showing that changes in stockpile height would not result in significant differences in emissions, the ALJ finds the opposing parties' concerns unpersuasive.<sup>35</sup>

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<sup>35</sup> Among the other conservative factors cited by Applicant is the fact that (1) its expert calculated 24-hours worth of emissions from active stockpiles and attributed it to the 10-hour working day, thus falsely inflating the amount of hourly emissions for short-term modeling purposes; (2) its expert "double-counted" stockpile emissions by considering all stockpiles both active and inactive in his calculations; and (3) the TCEQ method for calculating stockpile emissions comes from the EPA's AP-42 guidance and the TCEQ's own *Rock Crushing Plants* document, and TCEQ staff has noted that the recycling of concrete rubble (like that involved in this case) generates "noticeably less dust" than other types of rock crushing. Tr. at 554-555; App. Ex. 39, at 3. While the ALJ agrees with the opposing parties that some of these factors are not as conservative as Applicant indicates, the ALJ still finds that they do add some additional level of conservatism to Applicant's stockpile emissions calculations.

### 3. Background Concentrations

As part of its modeling efforts, Applicant is required to include existing background concentrations of particulate matter in the ambient air around the proposed site. In lieu of conducting actual on-site monitoring, an applicant may use monitoring data from nearby monitors. A TCEQ staff guidance memo indicates:

Ideally a network of monitors would be available to provide concentrations near the site of the permit application. By near we mean within about 1 kilometer (km) of the area of maximum concentrations or the area of the combined maximum impact from existing and proposed sources. However, existing monitors within 10 km of the proposed sources can also be used.<sup>36</sup>

In this case, Applicant used data from a nearby monitor to determine the background concentration of PM<sub>2.5</sub>. However, the opposing parties disagree that using that monitoring site was appropriate. Instead, they propose that a different monitoring site—the one used by Protestants' expert Mr. Hunt—provides a more representative sample of background PM<sub>2.5</sub> concentrations.

For background PM<sub>2.5</sub> concentrations, Applicant's expert used monitoring data from a monitor located in a park area approximately 10 kilometers to the west/northwest of the 288 Yard. This was referred to as the Bissonnet monitor. In using the data from the Bissonnet monitor, Applicant's expert determined that the annual background concentration of PM<sub>2.5</sub> was 10.3 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).<sup>37</sup> In contrast, Protestants' expert used data from a monitor located approximately 20 kilometers away from the 288 Yard, in a more industrialized area. This was referred to as the Mae Drive monitor. In using this data, Protestants' expert came up with a background concentration of 31  $\mu\text{g}/\text{m}^3$ .

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<sup>36</sup> App. Ex. 33, at 1.

<sup>37</sup> Applicant's expert presented two different background concentrations during a deposition in this case, 10.3 and 12.7  $\mu\text{g}/\text{m}^3$ , using data from different sources. Ultimately, for his prefiled testimony in this case, Applicant's expert relies on the 10.3  $\mu\text{g}/\text{m}^3$  figure. Tr. at 222-224; App. Ex. 52, at 20; App. Ex. 27.

The opposing parties argue that the Bissonnet monitor is not representative because it is located in a park surrounded by residential development and is not located near a major highway. In contrast, both the 288 Yard and the Mae Drive monitor are located near major highways and are in more industrial locations. As such, the opposing parties argue the Mae Drive monitor provides more "representative" background data.

Applicant disagrees, pointing out that the TCEQ staff guidance memo focuses on proximity to the proposed site, and the Bissonnet monitor is the closest representative monitor to the site, falling within the 10 km range mentioned in the staff guidance memo. Applicant notes that the Mae Drive monitor is nearly twice as far away in an area that is even more industrial than the area around the 288 Yard. Further, Applicant highlights that both the Bissonnet monitor and the 288 Yard are located in the same general direction from downtown Houston, whereas the Mae Drive site is to the east of downtown and downwind from the Houston Ship Channel industrial corridor. Accordingly, the Applicant urges that the Bissonnet monitor is the most representative background monitor for  $PM_{2.5}$  concentrations.

As an initial matter, it is important to note that regardless of which background monitor is used, the modeling demonstrates that predicted maximum emissions will not exceed the existing NAAQS for  $PM_{2.5}$ . However, as discussed elsewhere in this PFD, the EPA has proposed to lower the NAAQS for  $PM_{2.5}$  and the choice of a background monitor dramatically affects whether predicted maximum emissions levels would be close to the proposed NAAQS or would greatly exceed them. So, if the Commission ultimately decides that the proposed NAAQS have no impact on this proceeding, then this issue is essentially moot.

But, assuming the issue is not moot, the ALJ still concludes that the background monitor selected by Applicant was appropriate. The Bissonnet monitor is much closer than the Mae Drive monitor to the 288 Yard and is close to or within the 10 kilometer range mentioned in the TCEQ staff guidance memo. Because the Bissonnet monitor is located in a park generally surrounded by residential development, the ALJ agrees that it is not entirely representative of conditions at the 288

Yard. However, the ALJ has even greater concerns about the Mae Drive monitor location. Its proximity to Interstate 10 (estimated at approximately 900 feet) and the Houston Ship Channel Industrial area (containing refineries and chemical plants expected to emit a lot of fine particulate matter) and its far distance from the 288 Yard make it an even less reliable predictor of background emissions than the Bissonnet monitor.<sup>38</sup> Accordingly, the ALJ concludes that Applicant properly used the Bissonnet monitor to determine background concentrations of PM<sub>2.5</sub>.

#### 4. Screen Modeling

To support a permit alteration term establishing a 100-foot property line setback for rock-crushing activities in this case, Applicant relied on screen modeling previously submitted in 2003 in relation to Permit No. 40072 (which governs the operation of the portable concrete crushing equipment involved in this case). The opposing parties argue the screen modeling failed to properly include all emissions sources, demonstrating a flaw in the modeling. In particular, the modeling only included aggregate handling, crushing operations, and screening operations. Moreover, the opposing parties argue that Applicant's screen modeling used an area of operations of 1.8 million cubic feet, whereas the dimensions of the aggregate handling, crushing operations, and screening operations only add up to 3,439 cubic feet. By using a larger area of operations, emission rates were lower than if the actual dimensions of the operational components themselves were used. According to the opposing parties, this resulted in falsely deflated emission rates in the screen modeling.

Applicant does not disagree with the facts alleged by the opposing parties, but asserts they are distorting the issue. Applicant argues that screen modeling was performed only for the limited purpose of determining the proper setback/buffer distances for the aggregate handling, crushing operations, and screening operations of the crusher. As such, those specific emissions sources were the only emissions sources included in the modeling. Moreover, Applicant disagrees that it is appropriate to add up the actual dimensions of the various operations to come to the total volume

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<sup>38</sup> Tr. at 560-561.

area of the emissions sources. Such a method would be appropriate only if the various operations were fit together precisely like a puzzle. But, they are not. Instead, they are spread across a site. So, Applicant asserts that you look at how the operations are typically set up, then you essentially draw a box around the space they take up. This then serves as your point volume source for the screen modeling calculations. Applicant argues this accurately predicts emissions from the facilities as they are operated.

The ALJ finds no error in Applicant's screen modeling. The screen modeling was intended to serve a limited purpose and was not intended to be a projection of all emissions rates. Applicant's other modeling takes into account other emissions sources. Moreover, to the extent that the aggregate handling, crushing operations, and screening operations were considered a sole source in the screen modeling, it is logical and proper to include the total area covered by those operations, including the "empty space" between the various operations, in determining the volume source size. In summary, the ALJ finds Applicant's reasons regarding the appropriateness of its screen modeling to be persuasive and concludes that Applicant's screen modeling was not flawed and does not represent a flaw or error in Applicant's overall emissions modeling.

After considering all of the evidence and arguments on the various modeling issues, the ALJ finds that Applicant's modeling was properly conducted and that Applicant's emissions modeling and calculations are accurate.

**B. Would Operation of the Facility have an Adverse Effect on the Health of the Requesters Who Live Within One Mile of the Facility**

The opposing parties allege that operation of the facility has the potential to adversely affect the health of those living around the site. They present two main arguments and a third, lesser argument: (1) emissions of  $PM_{2.5}$  will be at a level that is dangerous to human health; (2) emissions of TSP will be above state property line standards, thus presumably harmful to human health; and (3) crystalline silica levels will exceed the 1-hour effects screening level (ESL) established under state standards, thus requiring greater analysis to determine whether there is a risk to human health.

## 1. NAAQS PM<sub>2.5</sub> Concerns

Before discussing the parties' arguments on this issue, it is important to first set out some background information regarding the NAAQS. All parties agree that particulate matter, and particularly PM<sub>2.5</sub>, is the primary pollutant of concern expected to result from operation of the facility. In regard to PM<sub>2.5</sub>, the NAAQS promulgated by the EPA establish threshold concentrations that are designed to protect human health. The NAAQS for PM<sub>2.5</sub> currently in place were established in 1997. Those standards (both primary and secondary) are 15 µg/m<sup>3</sup> for the annual standard and 65 µg/m<sup>3</sup> for the 24-hour standard. However, since those standards were established in 1997, the EPA has been challenged for failing to properly complete a required review and update to them. As a result of a lawsuit challenging the EPA's update to the NAAQS, the EPA entered into a consent decree by which it agreed to complete proposed rulemaking by December 20, 2005, and final rulemaking by September 26, 2006, implementing its review and update of the NAAQS.

The EPA staff has completed its initial review and has published the EPA Office of Air Quality and Planning Standards Staff Paper (Staff Paper), which evaluates available scientific studies and recommends that either (1) the annual PM<sub>2.5</sub> standard remain the same, but the 24-hour standard be lowered to between 25 and 35 µg/m<sup>3</sup>, or (2) the PM<sub>2.5</sub> standards be lowered to between 12 to 14 µg/m<sup>3</sup> for the annual standard and 30 to 40 µg/m<sup>3</sup> for the 24-hour standard.<sup>39</sup> New standards have not been finally adopted by the EPA Administrator and, prior to such adoption, the proposed standards in the Staff Paper are subject to revision or outright rejection by the Administrator. The Staff Paper and the studies underlying it form the basis of one of the main disputes between the parties over whether operation of concrete crushing operations at the 288 Yard will have an adverse effect on the health of people living within one mile of the site.

The opposing parties rely on the testimony of Dr. Lucy Fraiser, a toxicologist who has reviewed the Staff Paper and the studies cited in it. Dr. Fraiser concludes that adverse health impacts

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<sup>39</sup> HC Ex. 4, at 5-46 and 5-47.

could potentially occur at locations if off-property concentrations of  $PM_{2.5}$  exceed an average concentration of  $12 \mu\text{g}/\text{m}^3$  on an annual basis or  $25 \mu\text{g}/\text{m}^3$  for a 24-hour average.<sup>40</sup> While Dr. Fraiser acknowledged the EPA Administrator may not adopt the recommendations in the Staff Paper, that would not affect her opinion that the potential for adverse health effects exists at the levels cited in the paper, unless such a decision was based upon new studies and evidence.

In her testimony, Dr. Fraiser agreed that she could not quantify the potential for adverse health effects from the facility because there was not enough information available about the proposed facility to be able to do so. But, in the absence of sufficient information, Dr. Fraiser stated that “the typical assessment is to compare a model site concentration to a benchmark,” and the benchmarks in this case are the levels identified in the Staff Paper and supporting studies. Based upon those benchmarks, and the studies showing harmful health effects at levels much lower than the current NAAQS, Dr. Fraiser concludes there is a very real risk of adverse health effects at the modeled levels of  $PM_{2.5}$  expected from the facility, which according to Applicant’s own expert were predicted to be as high as  $14 \mu\text{g}/\text{m}^3$  annually and  $44.1 \mu\text{g}/\text{m}^3$  for the 24-hour averaging period.<sup>41</sup>

Applicant argues there is no reason to look beyond the existing NAAQS for  $PM_{2.5}$  because those standards have been adopted and shown to be protective of human health with a reasonable level of conservatism. Applicant asserts that, until such time as new standards are properly adopted by the EPA, the existing standards establish an acceptable level of emissions. Applicant points out that the proposals in the Staff Paper are simply that—proposals—and have no legal weight and, in fact, may never be adopted by the EPA Administrator. Applicant argues that it would be unfairly discriminatory to subject Applicant to such proposed standards when they have not been adopted. And, if they are not adopted or if different standards are ultimately adopted, then Applicant notes that it would end up likely being the only facility subjected to the standards currently proposed.

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<sup>40</sup> HC Ex. 28, at 23.

<sup>41</sup> Tr. at 583-585; HC Ex. 31. For purposes of his testimony in this case, Applicant’s expert actually calculates  $PM_{2.5}$  emissions from the facility as being  $11.7 \mu\text{g}/\text{m}^3$  annually and  $36.1 \mu\text{g}/\text{m}^3$  for the 24-hour averaging period. But, during his deposition and at the hearing, he conceded that the figures of  $14.0 \mu\text{g}/\text{m}^3$  annually and  $44.1 \mu\text{g}/\text{m}^3$  for the 24-hour averaging period would be reasonable based upon using different background concentrations.

Moreover, Applicant disagrees that the studies cited by the Staff Paper show a clear correlation between *all* PM<sub>2.5</sub> and adverse health effects, particularly mortality. Rather, Applicant argues that the most significant factor is the chemical component of the particulate matter. As a primary example, Applicant cites to a study of eight Canadian cities that is referenced in the Staff Paper. That study concluded that “the characteristics of the complex chemical mixture in the fine fraction may be a better predictor of mortality than mass alone.”<sup>42</sup> Similarly, a study involving the City of Phoenix found “total mortality was not significantly associated with PM<sub>2.5</sub>,” although there was a positive correlation of increased health risks related to exposure to particles containing sulfates or combustion-related materials.<sup>43</sup> Given these statements from the studies, Applicant disputes that the scientific evidence supports Dr. Fraiser’s conclusion that there is a serious risk of adverse health effects at PM<sub>2.5</sub> levels greater than the 12 µg/m<sup>3</sup> (annual) and 25 µg/m<sup>3</sup> (24-hour) standards recommended by her, without taking into account the composition of the particles.

In this same vein, Applicant argues that the emissions expected from its concrete crushing operations will consist of mostly “crystal” particles, which some studies indicate are not correlated with adverse health effects. Applicant’s toxicology expert, Dr. Thomas Dydek, identified three types of fine particulate matter: combustion products, aerosols formed by secondary conversion, and crystal materials.<sup>44</sup> Dr. Dydek opined that emissions from Applicant’s concrete crushing operations were generally crystal, because the components of concrete are crystal materials.<sup>45</sup> Applicant then cites the Staff Paper for its contention that crystal particles do not generally cause the adverse health effects associated with PM<sub>2.5</sub>:

These studies reported that fine particulates from combustion sources, including motor vehicle emissions, coal combustion, oil burning, and vegetative burning were associated with increased mortality. No significant increase in mortality was reported

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<sup>42</sup> HC Ex. 5, at 16.

<sup>43</sup> HC Ex. 6, at 5 and 6 (Table 9).

<sup>44</sup> Tr. at 285-286.

<sup>45</sup> Tr. at 288.

with a source factor representing crustal material in fine particles. These studies indicate that exposure to fine particles from combustion sources, not crustal material, is associated with mortality.<sup>46</sup>

Therefore, Applicant argues that, even if the NAAQS for PM<sub>2.5</sub> are eventually lowered, this particular facility still will not result in adverse health effects because it is not expected to emit the types of PM<sub>2.5</sub> that are associated with adverse health effects.

Finally, Applicant notes that the PM<sub>2.5</sub> levels found acceptable by Dr. Fraiser are even lower than those proposed in the Staff Paper and should not be followed. In particular, the Staff Paper recommendations suggest keeping the annual NAAQS for PM<sub>2.5</sub> at the same level (15 µg/m<sup>3</sup>) but lowering the 24-hour standard to between 25 and 35 µg/m<sup>3</sup> or, alternately, lowering the annual standard to between 12 and 14 µg/m<sup>3</sup> and setting the 24-hour standard to between 30 and 40 µg/m<sup>3</sup>. These standards are all more lenient than Dr. Fraiser's recommendation of 12 µg/m<sup>3</sup> for the annual standard and 25 µg/m<sup>3</sup> for the 24-hour standard. Accordingly, Applicant urges that Dr. Fraiser's recommendations are not supportable and should be rejected by the Commission.

After considering the evidence presented, the ALJ concludes that expected PM<sub>2.5</sub> emissions from the facility are not likely to cause adverse health effects to people living within a mile of it. At the outset it is important to note that all experts agree that emissions from the facility are not expected to exceed the existing NAAQS for PM<sub>2.5</sub> or PM<sub>10</sub>. If the Commission chooses to conclude that compliance with the existing NAAQS is sufficient to ensure no adverse health effects, then no further analysis is necessary.

However, if the Commission concludes that additional analysis would be appropriate, the ALJ still finds that expected PM<sub>2.5</sub> emissions from the facility are not likely to cause adverse health effects to people living within a mile of it. As noted, there is a concern that the existing NAAQS are not sufficiently protective of health, and they may soon be lowered. Although it does appear likely

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<sup>46</sup> HC Ex. 4, at 3-16.

that the NAAQS for  $PM_{2.5}$  may be lowered, there is no basis to believe they will be lowered to the levels recommended by Dr. Fraiser in this case. As noted above, Applicant's expert calculates  $PM_{2.5}$  emissions levels as being at  $11.7 \mu\text{g}/\text{m}^3$  annually and  $36.1 \mu\text{g}/\text{m}^3$  for the 24-hour averaging period. These amounts are within the Staff Paper's alternate proposal of lowering the annual standard to between 12 and  $14 \mu\text{g}/\text{m}^3$  and setting the 24-hour standard to between 30 and  $40 \mu\text{g}/\text{m}^3$ .

Given the divergent opinions on the true cause of health risks from  $PM_{2.5}$  (regarding the extent the overall volume of emissions is indicative of health risks, versus the type of the particulate matter emitted), the ALJ is not convinced by Dr. Fraiser's opinions regarding the health risks associated with emissions from the facility above her acceptable levels. Instead, the ALJ is more persuaded by the analysis and studies referenced in the Staff Paper. The Staff Paper clearly indicates that some health risks may exist from  $PM_{2.5}$  emissions levels that are currently acceptable under the NAAQS. But, the Staff Paper also shows that the nature of the emissions are perhaps the most significant factor in determining the level of health risk associated, and there is some leeway in determining what levels of emissions would be sufficient to protect against adverse health effects. In this case, there is significant dispute over whether the emissions from concrete crushing operations at the facility will consist of crustal materials or will include additional combustion or other harmful volatile organic chemicals. The expert witnesses testified at length, disagreeing on the expected composition of the emissions at the site. At a minimum, it appears the majority of emissions will come from materials that can be classified as crustal in nature.<sup>47</sup> But, ultimately, the specific composition may not be that relevant in this case, because the modeled emissions fall within a range that appears safe even under the Staff Paper's proposed emissions levels.

So, given that (1) the projected emissions are within the existing NAAQS, (2) the projected emissions are likely within the acceptable range under the EPA Staff's proposed NAAQS, (3) the projected emissions likely consist mostly of crustal materials which are less associated with health

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<sup>47</sup> Applicant's toxicologist testified that the emissions would be from crustal materials, whereas the opposing parties' toxicologist testified she could not make a determination. Thus, the ALJ concludes the preponderance of the evidence supports the conclusion that emissions would most likely be crustal in nature. Tr. at 620-623; Tr. at 414-416.

risks, and (4) even the opposing parties' expert toxicologist conceded that she "can't say it is more likely than not that the PM<sub>2.5</sub> emissions from Applicant's operations will cause an adverse health effect,"<sup>48</sup> the ALJ is persuaded that the operation of the proposed facility will not cause adverse health effects to people living within a mile of the facility.

## **2. One-Hour and Three-Hour State Property-Line Standards for TSP**

The opposing parties also rely on Dr. Hunt's modeling to demonstrate that the facility will have TSP emissions that exceed state property line standards, thus presumptively presenting a risk of adverse health effects. As noted above in the modeling section of the PFD, Mr. Hunt's modeling methodology produced expected emissions levels that exceed the 1-hour and 3-hour state property line standards for TSP. However, the ALJ has previously addressed Dr. Hunt's modeling and projections of state property line exceedances for TSP and found his modeling to be less reliable than Applicant's modeling. Because the ALJ has previously concluded the evidence supports a finding of no exceedance of the state property line standards for TSP, the ALJ provides no further discussion on this issue.

## **3. Crystalline Silica Emissions**

Finally, the Protestants argue that operation of the facility will result in crystalline silica emissions that exceed the 1-hour ESL established under state standards, thus presenting the possibility of a risk to human health. In particular, Mr. Hunt's modeling showed that the facility would have expected silica emissions of at least 2.14  $\mu\text{g}/\text{m}^3$  for the one-hour averaging period. The ESL for the 1-hour period is one  $\mu\text{g}/\text{m}^3$ . To eliminate the potential for such risk, the Protestants allege that additional review and analysis is needed. However, Applicant supposedly did not perform any additional review, thus allegedly failing to meet its burden of proof.

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<sup>48</sup> Tr. at 400-401. *See also* Tr. at 420-421, where she further explained that she could not say whether there would be adverse health effects from the operation of the facility.

Applicant argues that the evidence conclusively shows no adverse health effects are expected from the emission of crystalline silica. First, Applicant disputes the methodology employed by Mr. Hunt. Applicant notes that Mr. Hunt's modeling included road emissions, which are unreliable and should not be included for short-term modeling. Applicant's modeling, which did not include road emissions, showed silica levels below the ESL. Second, even if Mr. Hunt's modeling is accepted, Applicant points out that even Dr. Fraiser (an expert presented by Harris County and relied upon by the opposing parties) testified that the modeled silica levels were not high enough to be expected to create any adverse health effects.<sup>49</sup>

The ALJ finds that the modeled silica emissions levels do not present the likelihood of any adverse health effects. As noted previously, the ALJ agrees that roads should not be included in short-term modeling, thus negating the reliability of Mr. Hunt's results. However, even if his projected silica emissions levels are accurate, the mere exceedance of the ESL does not create a presumption of adverse health effects. Rather, it simply triggers a more in-depth analysis. In this case, the toxicology experts all agreed that the silica levels projected by Mr. Hunt did not present a risk of adverse health effects. Therefore, given this more detailed testimony by those experts, the ALJ finds no evidence in the record to justify a concern that expected silica emissions will present any danger to the health of those living within a mile of the facility.

**C. Would Operation of the Facility Adversely Affect the Ability of the Requesters to Use and Enjoy Their Property or Cause Damage to the Requesters' Property?**

**1. Opposing Parties' Arguments**

The opposing parties identify two businesses located within a mile of the proposed facility that will allegedly be impacted by the rock crushing operations. The first—Horticultural Consultants, Inc.—is a wholesale nursery specializing in exotic palms, bamboo, and cycads. It is located immediately adjacent to the 288 Yard. Its owner, Grant Stephenson, testified that he had

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<sup>49</sup> HC Ex. 28, at 23; Applicant's expert, Dr. Dydek, shared this opinion. App. Ex. 53, at 28.

concerns that dust emitted from the site would adversely affect the health and marketability of plants sold by the nursery. He testified that the area around the 288 Yard is relatively flat, without buffers surrounding the site, thus allowing the wind to transport dust easily onto the plants at his nursery. He testified that the health and aesthetics of plants at the nursery depend on their ability to conduct photosynthesis to produce chlorophyll, and that this process can be impeded if there are significant amounts of dust coming from the concrete crushing operations and settling on plants at the nursery.

Also adjacent to the 288 Yard is Texas Pipe's facility. Texas Pipe is a distributor of carbon and stainless steel pipe. Scott Rubinstein, a vice-president for Texas Pipe, testified that he had concerns that the dust emissions from rock crushing operations could adversely affect the health of Texas Pipe's employees. He also expressed concerns that excessive dust settling on pipes could cause damage to them.

Finally, the opposing parties also contend that dust emissions could be so significant as to create a nuisance condition for those people living and working within a mile of the 288 Yard. They again point to Mr. Hunt's modeling showing exceedance of the 1-hour and 3-hour state property line standards for TSP and of the ESL for crystalline silica, both of which they contend reflect emissions significant enough to create a nuisance condition. Also, the opposing parties point out that Applicant received four nuisance-related notices of violation (NOV) from Harris County for rock crushing operations at its Chrisman yard in little over a two-year period.<sup>50</sup> Such nuisance violations included instances of cars being completely covered in dust from Applicant's operations. According to the opposing parties, this history of violations is indicative of what can be expected at the 288 Yard.

## **2. Applicant's Arguments**

Applicant contends that concrete crushing operations at the 288 Yard will not cause property damage nor adversely affect the use and enjoyment of property around the site. First, Applicant

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<sup>50</sup> HC Ex. 29, at 17.

points out that the 288 Yard is a very large site for a relatively small concrete crushing operation. In particular, Applicant intends to use 15 acres of the 288 Yard for crushing operations, with the remaining 43 acres to serve as a buffer.

Second, Applicant argues that its modeling shows emissions well below the property line standards and the secondary NAAQS, thus negating the concerns raised by both Grant Stephenson and Scott Rubinstein. Moreover, Applicant asserts that neither of those witnesses is qualified as an expert, nor did they offer any reliable testimony that would support a finding of potential harm to them, their businesses, or the surrounding property.

As for Mr. Stephenson's testimony regarding his nursery, Applicant argues that his concerns have no supporting foundation. For example, Mr. Stephenson does not have a degree in botany or plant biology, has not reviewed any of the air dispersion modeling results, and has not conducted any tests to determine the impact of emissions on plants at his nursery. Further, although Mr. Stephenson expressed concerns, he offered no objective quantification of any potential harm to the nursery. In fact, Applicant points out that even the opposing parties' own expert testimony indicates that any alleged exceedance of the state property-line standards would not occur near the nursery. Thus, Applicant contends that even the opposing parties' expert testimony does not support Mr. Stephenson's concerns.

Similarly, Applicant attacks the reliability of Scott Rubinstein's testimony on behalf of Texas Pipe. At the hearing, Mr. Rubinstein conceded that he did not personally know how dust from the 288 Yard could damage pipe at Texas Pipe's facility, and he admitted he did not know to what extent dust could devalue the pipe either.<sup>51</sup> Applicant points out that no witness offered testimony or evidence of predicted emissions at the pipe storage areas or any testimony of a person qualified to opine on whether dust at *any* concentration can damage pipe. Applicant again asserts that the modeling by the opposing parties' own experts shows that any potentially "excessive" dust emissions

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<sup>51</sup> Tr. at 489-490.

will not occur near the area where Texas Pipe stores its product; therefore, there is no potential for any of the harm alleged by Mr. Rubinstein.

Finally, Applicant disputes the concerns raised by the opposing parties about Applicant's compliance history. Applicant acknowledges that it had a number of NOVs from Harris County prior to 2002, but points to its perfect 0.0 Compliance History Rating with TCEQ for the concrete crusher in issue, and the fact that none of its facilities have had any NOV or nuisance dust complaints since 2002. This, Applicant urges, shows that its watering and operational methods are effective and will not result in nuisance conditions.

### **3. ALJ's Analysis**

The ALJ is persuaded that concrete crushing operations at the 288 Yard will not adversely affect the ability of the requesters (or other similarly situated persons) to use and enjoy their property, nor will it cause damage to their property. First, as noted previously, the ALJ finds flaws in Mr. Hunt's modeling and, therefore, does not find his projections of exceedance of the state property line standards for TSP or the ESL for silica to be persuasive.

Next, although the experts reach different conclusions about emissions, all of the air dispersion modeling offered by them shows no significant emissions occurring offsite in the area of either Texas Pipe or Horticultural Consultants, Inc. The testimony offered by Mr. Stephenson and Mr. Rubinstein is lacking in persuasive value because neither of them offered any actual analysis to show the likely effects of the concrete crushing facility on them or their businesses. Rather, they merely expressed concerns. But, these concerns have no objective foundation, as they were not tied to air dispersion modeling, emissions studies, or any qualified basis for concluding that tangible harm was likely to result from operation of the concrete crushing facility. The witnesses practically conceded as much in their testimony on cross-examination.

The past NOV's cited by the opposing parties are not persuasive either. Those NOV's are all at least three years old, whereas none of Applicant's facilities have been cited for nuisance complaints since 2002.<sup>52</sup> In the ALJ's opinion, the more recent history is a better predictor of future operations. Under the applicable guidance, Applicant has a perfect 0.0 Compliance History rating for the crusher that Applicant seeks to have moved to the 288 Yard.

The Applicant's expert testimony is clear, indicating that there is not a likelihood of harm to surrounding properties or to the ability of owners to use that property. In light of such clear evidence, and without any persuasive evidence to the contrary, the ALJ concludes that concrete crushing operations at the 288 Yard will not present the likelihood of nuisance conditions or damage to surrounding property.

**D. Would Operation of the Facility have an Adverse Effect on Air Quality?**

The parties' arguments on this issue are subsumed within the arguments related to the other issues, and the ALJ finds it repetitive and unnecessary to identify those arguments again. As previously stated above, the ALJ concludes that Applicant's modeling is accurate and shows no projected harmful effects to public health or the use and enjoyment of property around the site. Although the operation of the facility will result in increased emissions, such increases will not be so significant as to result in the exceedance of any existing standards. Accordingly, based on the totality of the record, the ALJ determines that the operation of the facility will not have an adverse effect on air quality.

**E. Is a Stockpile Limitation Necessary and are Stockpile Emissions Adequately Addressed in the Permit Conditions?**

As it currently reads, the proposed permit contains no limitations on stockpile size or height. Similarly, there is no specific requirement for watering of raw material stockpiles. The opposing parties argue for terms regarding these matters to be included in the permit, if it is issued.

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<sup>52</sup> Tr. at 449-450, and 453.

**1. Opposing Parties' Arguments**

The opposing parties argue that stockpile size limitations should be included in the permit, noting that such limitations have been included in other, similar permits. Ms. Guynn testified that she was familiar with other permits that had a 45-foot limit on stockpile height. Even permits previously held by Applicant have included 45-foot height limits on stockpile size. The opposing parties argue that such limits should be included in the proposed permit because stockpile height is a major concern, with dust emissions traveling further when stockpiles are higher.<sup>53</sup> The opposing parties contend that stockpile height limits will reduce the likelihood of dust traveling very far off-site, thus reducing the chance of off-site nuisance complaints. And, the opposing parties point out, Applicant has indicated that it is not necessarily opposed to stockpile height limits for the 288 Yard alone.<sup>54</sup>

Also, the opposing parties complain that the proposed permit has insufficient requirements regarding the watering of stockpiles. First, they take issue with the fact that the proposed permit requires watering of finished product stockpiles, as needed, but does not include any provision regarding raw material stockpiles. They assert that raw material stockpiles present a serious potential for dust emissions and should be subject to watering requirements. However, they disagree that the watering requirements for finished product stockpiles are a sufficient model to use. They find that the currently proposed requirement to water "upon detection of visible emissions" is too vague to be enforceable. The opposing parties, therefore, propose that additional permit requirements for the watering of both raw material and finished product stockpiles be included in the permit, if issued. Specifically, Harris County contends that Applicant should be required to water the facility at least two times per day and keep a record of all waterings.

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<sup>53</sup> Tr. at 442-443.

<sup>54</sup> Tr. at 113.

## 2. Applicant's Arguments

Applicant disagrees that stockpile height limits are necessary. It points out that the Commission has previously refused to include stockpile height limits in other permits issued to Applicant,<sup>55</sup> and the ED maintained that position in its response to public comment in this case.<sup>56</sup> Applicant's expert witness, Tim Prince, testified that higher stockpiles do not result in higher off-property concentrations of PM. He conceded that emissions may travel further off-site, but he also indicated that the emissions will disperse more, thus leading to lower concentrations of dust reaching ground level at any particular point.<sup>57</sup>

Further, Applicant argues that existing permit requirements for containing stockpile emissions are adequate to address the concerns raised by the opposing parties, thus making stockpile height limits superfluous and unnecessary. Specifically, Applicant identifies a number of permit requirements designed to ensure that stockpile emissions are controlled:

- Condition 4: Except for those periods described in 30 T.A.C. §§ 101.201 and 101.211, no visible fugitive emissions from the stockpiles shall leave the property.
- Condition 5.A: Area-type of truck-mounted water sprays shall be operated at all product stockpiles and active work areas.
- Condition 5.B: All roads and product stockpiles shall be sprinkled with water and/or environmentally sensitive chemicals upon detection of visible particulate emissions to maintain compliance with all TCEQ rules and regulations.
- Condition 8.E.(3): All future relocation and change of location applications shall comply with the following conditions: . . . (3) Stockpiles and vehicle traffic areas (except for entrance and exit to the site) shall be located at least 25 feet from any property line. In lieu of meeting the distance requirements for roads and stockpiles,

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<sup>55</sup> App. Ex. 22, at 3.

<sup>56</sup> App. Ex. 9, at 7.

<sup>57</sup> Tr. at 204, 555-556, and 558.

the following may occur: . . . (b) Stockpiles within this buffer distance must be contained within a three-walled bunker which extends at least two feet above the top of the stockpile.

Applicant points out that, if stockpile emissions are controlled, then the height of the stockpile and its effect on emissions is irrelevant. Essentially, Applicant argues that if there is no or minimal dust leaving the stockpile, then it does not matter how high the stockpile is.

As for additional watering requirements, Applicant argues that its compliance history shows there is no need for more stringent or precise requirements. Its existing permits contain requirements, similar to those in the proposed permit, that watering be done upon the detection of visible particulate emissions. Applicant argues this requirement is sufficient, as demonstrated by the fact that it has not been issued a notice of violation or been the subject of a documented nuisance complaint based on emissions at any of its crushing yards since 2002.

### **3. ALJ's Analysis**

One of the primary benefits of this site is that it has a reasonably large buffer area between it and surrounding residential, school, and worship uses. This means that emissions are less likely to reach those areas. However, as conceded by Applicant's own modeling expert, higher stockpile heights increase the likelihood that emissions will travel further off-site. Accordingly, the higher the stockpile height, the more likely the chance that emissions that would ordinarily be confined closer to the site will, in fact, reach local residential areas and places of education or worship. Although Applicant's operational manager testified that he did not believe stockpile height limitations were appropriate, he also was not necessarily opposed to them for this site. After considering the concerns raised by the opposing parties, the ALJ believes it would be appropriate to impose a stockpile height limitation of 45 feet to help prevent the likelihood of emissions from reaching surrounding residences, schools, or places of worship. Such a limitation is consistent with some other permits issued to Applicant.

The ALJ also agrees that Applicant's current watering requirements for stockpiles are insufficient. Requiring watering upon the detection of visible emissions is an ambiguous standard, is difficult to enforce, and opens the door for abuse by an applicant. At a minimum, there should be some basic, objectively-measurable watering requirements for stockpiles. Therefore, the ALJ recommends that Applicant be required to water both its raw materials and product stockpiles twice daily and to maintain a log of all such waterings. However, because this requirement could lead to absurd results in some situations, such as on days when there is a significant amount of rain in the Houston area, the ALJ believes that any such watering requirement should also have an exception. Specifically, Applicant should not be subjected to the twice-daily watering requirement for stockpiles on days when there has been a measurable amount of precipitation for the area.

**F. Whether or Not the Record Keeping Requirements Set Forth in the Draft Permit are Sufficient to Enable Enforcement?**

**1. Opposing Parties' Arguments**

The opposing parties allege that the currently proposed permit has numerous deficiencies in regard to record keeping, and that such deficiencies prevent reasonable enforcement of certain permit requirements. For example, the draft permit prohibits Applicant from accepting materials containing asbestos. But, there is no requirement that Applicant keep records of all materials delivered to the site. Therefore, the opposing parties argue that it will be difficult, if not impossible, to determine whether products containing asbestos have been received at the 288 Yard.

Similarly, as noted above, without a requirement for regular watering and associated recordkeeping (for when, where, and how often watering is conducted), it will be difficult to determine if Applicant is watering in a manner consistent with the permit requirements to control dust. Moreover, TCEQ rules require facilities to report events in which emissions exceed certain TCEQ standards, mostly related to the opacity of emissions. However, there is no requirement for Applicant to have a trained observer onsite who will be able to determine if such exceedance events

have occurred. Without properly trained personnel, the opposing parties contend that Applicant will not be able to properly determine when watering is necessary or when exceedance events have occurred.

The opposing parties assert that a permit without proper requirements, or with such vague, ambiguous, and unenforceable provisions as those included in the proposed permit in this case, should not be granted.

## **2. Applicant's Arguments**

Applicant claims that no additional permit requirements are needed. Applicant alleges that the Commission has never required it to maintain records of all products received at a site and such a requirement is not necessary to ensure that asbestos materials are not accepted at the 288 Yard. As noted in the ED's response to public comment, it is illegal for any person to deliver asbestos-containing materials to one of Applicant's crushing yards. Applicant's operations manager testified that there are very limited types of material received by Applicant that could contain asbestos – namely concrete pipe and tiles – and both of those products are easily recognizable by Applicant's employees. He testified that employees are trained on recognizing asbestos products and that there are numerous points in the process at which asbestos materials could be observed and identified prior to entering the crusher. In particular, Applicant's employees: (1) observe all loads transported into the site, (2) observe all material as it is dropped onto raw material stockpiles, and (3) inspect all material as it enters the crusher.<sup>58</sup> Given these safeguards, Applicant contends it is burdensome and unnecessary to require Applicant to document every load transported to the site.

Next, Applicant disagrees that the permit does not have sufficient record-keeping requirements regarding watering and dust suppression. Applicant notes that it is required to maintain records of daily and annual amounts of materials processed, daily road cleaning, and repair and

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<sup>58</sup> Tr. at 116-117, and 129-130.

maintenance of abatement systems. Applicant alleges that these requirements are sufficient regarding watering and dust suppression and no additional requirements for personnel training or scheduled watering are necessary.

### **3. ALJ's Analysis**

Except as to watering, the ALJ concludes that no additional record-keeping requirements are necessary. It would be unduly burdensome to require Applicant to document every load brought into the facility when such is not a standard requirement for other similar facilities. By law, the facility is prohibited from accepting, and other parties are prohibited from delivering, materials containing asbestos to the 288 Yard. While the opposing parties argue it is not feasible to enforce such a general prohibition except through record keeping, the ALJ disagrees. Inspection and testing could also reveal whether asbestos materials were found at the site, and a finding of asbestos material at the site would likely be a sufficient basis for enforcement action against Applicant. Moreover, the evidence indicates that Applicant trains its personnel on recognition of asbestos products and on monitoring for emissions. So, the ALJ disagrees that additional record keeping is necessary to document materials delivered to the site or the training of site personnel.

However, the ALJ does agree that Applicant should be required to keep a log of all waterings. Such a log would provide a useful means of determining Applicant's efforts at reducing emissions and would be a practical means to show compliance with permit requirements.

### **G. Summary of ALJ's Recommended Additional Permit Requirements**

As discussed throughout the PFD, there are a number of additional permit requirements the ALJ believes would be appropriate and also numerous areas where Applicant has indicated a willingness to include additional permit requirements.

Accordingly, the ALJ recommends the following additional permit requirements be imposed if the requested change-of-location application is granted:

- Applicant should be required to post signs at the 288 Yard indicating that the speed limit on all site roads is six miles per hour.
- Applicant should be required to wet sweep and vacuum entrance and exit roads daily.
- Applicant should be required to water all stockpiles, both raw material and finished product, at least twice daily on all days for which there is no measurable amount of precipitation at the 288 Yard.
- Applicant should be required to maintain a record (*i.e.*, a log) of all on-site waterings.
- Stockpiles should not exceed 45 feet in height.

The precise language of each of these recommended permit conditions is contained in the proposed final order prepared by the ALJ and presented to the Commission in this case.

#### **H. Transcript Costs**

In a prehearing order in this case, the ALJ required Applicant to work with the TCEQ Chief Clerk's Office to ensure that a court reporter attended and transcribed the evidentiary hearing. The ALJ required Applicant to bear all costs associated with such a transcript, subject to the allocation of such costs at the conclusion of the hearing. In post-hearing briefing, only Harris County presents some discussion regarding the allocation of transcript costs. The other parties present no argument, but merely make proposals for the allocation. For example, Applicant merely requests that the costs be "divided equally among Applicant, Protestants, the City of Houston, and Harris County."<sup>59</sup> The City of Houston requests that Applicant bear half of the transcript costs, with the opposing parties (except for OPIC) bearing the other half equally.

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<sup>59</sup> Applicant's *Brief in Reply to Closing Arguments*, at 39.

In contrast, Harris County urges the Commission to assess all transcript costs against Applicant, and presents some explanation for its proposal. Specifically, Harris County points out that Applicant's experts presented additional rebuttal testimony at the hearing that should have been included in prefiled testimony. If such testimony had been provided earlier, Harris County argues the opposing parties could have expended less time and resources in the hearing.

The Commission's rules provide that transcript costs will not be assessed against the ED or OPIC.<sup>60</sup> Further, those rules provide a list of factors to be considered in determining how to allocate transcript costs. Those factors and the ALJ's conclusions regarding them is presented below:<sup>61</sup>

<b>CRITERIA FROM SECTION 80.23(d)(1)</b>	<b>ALJ'S ANALYSIS</b>
The party who requested the transcript	Not Applicable. The ALJ required the court reporter and transcript, so no specific party actually requested it.
The financial ability of the party to pay the costs	There is no specific evidence on the financial status or viability of the various parties.
The extent to which the party participated in the hearing	All of the parties actively participated in the hearing to an equal extent, except for the City of Houston and OPIC, whose involvement was less than the other parties.
The relative benefits to the various parties of having a transcript	All parties used the transcript significantly in their closing briefing, although the Applicant and Harris County appeared to rely on it more than any other party.
The budgetary constraints of a state or federal administrative agency participating in the proceeding	Not Applicable. None of the parties involved against whom costs could be assessed is a state or federal agency.

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<sup>60</sup> 30 TEX. ADMIN. CODE § 80.23 (d)(2).

<sup>61</sup> 30 TEX. ADMIN. CODE § 80.23 (d)(1).

In rate proceedings, the extent to which the expense of the rate proceeding is included in the utility's allowable expenses	Not Applicable. This is not a rate case.
Any other factor which is relevant to a just and reasonable assessment of costs	See discussion below in body of PFD.

As can be seen in the chart above, none of the identified factors are that helpful to assessing transcript costs in this case. Ultimately, it would appear to come down to the last, "catch-all" factor regarding what is just and reasonable. The ALJ agrees with Harris County that some of the issues addressed in the hearing and the evidence presented by Applicant on rebuttal could have been anticipated and addressed more expeditiously by Applicant prior to the hearing. However, the ALJ is not persuaded that the hearing would have been shortened if the Applicant had provided its evidence in a more expeditious manner.

Ultimately, in considering the factors and what is just and reasonable, the ALJ recommends that the Commission assess 80% of the transcript costs against Applicant, 10% against Harris County, and 10% against the City of Houston. The City of Houston did not participate as actively in the hearing and did not rely on the transcript to the degree Applicant and Harris County did, but it has a population of greater than two million people, appears to have the financial resources to bear a portion of the costs, and has shown a willingness to do so in its briefing. Therefore, 10% appears to be a fair allocation to the City of Houston. Harris County used the transcript significantly, participated in the hearing more than any other party except for Applicant, has a population in excess of 3.6 million people, and appears to have the financial resources to bear a portion of the costs. As such, 10% appears to be a fair allocation to Harris County.<sup>62</sup> Applicant participated in the hearing extensively, used the transcript significantly in its briefing, has the financial resources to bear the costs, and has arguably benefitted most from the transcript as evidenced by the fact the ALJ is recommending its application be granted. Accordingly, 80% appears to be a fair allocation of costs to Applicant.

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<sup>62</sup> The ALJ takes official notice of the approximate populations of Harris County and the City of Houston. Any party objecting to this official notice may file such objections in exceptions to the PFD.

**V. CONCLUSION**

Given the additional safeguards provided by the recommended conditions and the protection of health suggested by Applicant's modeling and testimony, the preponderance of the evidence suggests Applicant's requested change in location of its concrete crushing operations will not create a nuisance, will be protective of public health, and should be granted. Therefore, the ALJ recommends the application be granted, with the additional permit conditions set forth herein.

**SIGNED January 31, 2006.**



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**CRAIG R. BENNETT  
ADMINISTRATIVE LAW JUDGE  
STATE OFFICE OF ADMINISTRATIVE HEARINGS**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



AN ORDER concerning the Application by Southern Crushed Concrete, Inc., to Change the Location of a Concrete Crushing Facility in Harris County, TCEQ Docket No. 2004-0839-AIR, SOAH Docket No. 582-05-1040

On \_\_\_\_\_, the Texas Commission on Environmental Quality (Commission or TCEQ) considered the application of Southern Crushed Concrete, Inc., to change the location of a previously-permitted concrete crushing facility in Harris County, Texas. The application was presented to the Commission with a Proposal for Decision (PFD) by Craig R. Bennett, an Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH), who conducted a hearing on the application on September 19-21, 2005.

After considering the PFD and the evidence and arguments presented, the Commission makes the following Findings of Fact and Conclusions of Law:

**I. FINDINGS OF FACT**

**Introduction, Procedural History and Notice**

1. On October 6, 2003, Southern Crushed Concrete, Inc. (Applicant) filed an application (Application) with the TCEQ seeking to authorize the change of location of an existing portable concrete crushing facility in Harris County, Texas.
2. Applicant published the Notice of Receipt of Application and Intent to Obtain Permit in the *Houston Press* on October 23, 2003.

3. On January 13, 2004, the Executive Director (ED) of the TCEQ declared the Application to be technically complete.
4. On January 15, 2004, Applicant published the Notice of Application and Preliminary Decision in the *Houston Press*, announcing the ED's preliminary decision to approve the Application and to issue Permit No. 70136L001 authorizing the change of location of the concrete crusher. This published notice also gave notice of a public meeting scheduled on the Application.
5. On January 27, 2004, a public meeting was conducted at Blueridge United Methodist Church, 2929 Reed Road, Houston, Texas, 77051.
6. On June 3, 2004, the ED issued its Response to Public Comments regarding the Application. The ED made no changes to draft Permit No. 70136L001 in response to public comment.
7. During its public notice and comment period for the Application, the Commission received hundreds of hearing requests from various parties and entities.
8. By Interim Order dated October 4, 2004, the Commission referred the Application to SOAH for a contested case hearing.
9. In its Interim Order, the Commission referred six issues to SOAH:
  - a. Would operation of the facility have an adverse effect on the health of the requesters who live within one mile of the facility?
  - b. Would operation of the facility adversely affect the ability of the requesters to use and enjoy their property or cause damage to the requester's property?
  - c. Would operation of the facility have an adverse effect on air quality?

- d. Whether or not the Applicant's emissions calculations and modeling are accurate?
  - e. Is a stockpile limitation necessary and are stockpile emissions adequately addressed in the permit conditions?
  - f. Whether or not the record keeping requirements set forth in the draft permit are sufficient to enable enforcement?
10. The Commission directed that the hearing on the Application was to occur in Houston, Texas.
  11. On December 16, 2004, the ALJ held a preliminary hearing in this matter in Houston, Texas.
  12. Notice of the preliminary hearing was published in the *Houston Chronicle*, a newspaper generally circulated in Harris County, on November 8, 2004, and mailed by the Commission's Chief Clerk to all interested persons under the requirements of the Commission's rules.
  13. At the preliminary hearing, the following were admitted as parties: Applicant; Citizens Against Southern Crushed Concrete (CASCC); the City of Houston; Harris County; Texas Pipe and Supply Company, Ltd. (Texas Pipe); and the Office of Public Interest Counsel (OPIC). No other person or entity sought party status.
  14. At the preliminary hearing, the ALJ established a docket control order designed to complete the proceeding within the maximum expected duration set by the Commission. In its Interim Order, the Commission established six months from the preliminary hearing as the deadline by which the PFD would be due.
  15. The hearing and procedural schedule were continued numerous times because State Representative Al Edwards, who is the designated representative of CASCC and was a witness in this proceeding, was required to be in Austin for the 2005 legislative session and two subsequent special legislative sessions.

16. The hearing on the merits was conducted on September 19-21, 2005, in Houston, Texas.
17. Following the submission of written closing arguments, the record closed on December 2, 2005.

### **General Background**

18. Applicant owns and operates facilities where it crushes broken concrete rubble from the demolition of roadways, buildings, and other structures, converting the resulting product into crushed concrete that can be used in construction.
19. Applicant owns or leases at least 11 concrete crushing yards and operates five portable concrete crushers in the greater Houston area.
20. In 1999, Applicant received Air Quality Permit No. 40072 from the Commission to construct and operate the portable concrete crushing facility at issue in this case. Since being permitted, Applicant has operated this concrete crushing facility at its crushing yard at 501 Gasmer Street in southwest Houston (the Gasmer Yard).
21. In October 2003, Applicant applied to the Commission for approval to move the concrete crushing facility (permitted under Air Quality Permit No. 40072) to property owned by Applicant located near the intersection of Bellfort Avenue and State Highway 288 in Harris County (288 Yard).
22. The 288 Yard is a 58-acre tract of land that Applicant owns in south Houston. The area around the 288 Yard is generally industrial, including pipe yards, a pipe cement coating operation, a gas terminal, an industrial steel recycling site, a closed incinerator and landfill, and undeveloped land.

23. The proposed crushing facilities at the 288 Yard would be located more than 7,000 feet from the nearest school, 3,000 feet from the nearest residence, and 5,300 feet from the nearest house of worship.
24. Although not currently in operation as a crushing facility, the 288 Yard has accepted broken concrete and a raw material stockpile has developed. This stockpile is approximately 500 feet long, 150 feet wide, and 40 feet high.
25. Applicant's 288 Yard concrete crushing operations will employ two crushers to crush the concrete rubble used as raw material: a primary "jaw" crusher and a secondary "cone" crusher. Crushed concrete smaller than 1.5" in diameter will pass through screens and onto a conveyor belt that will transport the crushed concrete to a finished product stockpile via a radial stacker.
26. Permit No. 70136L001 requires Applicant to install permanently mounted spray bars at the inlet and outlet of all crushers and operate the water spray systems as necessary to control dust. Permit No. 70136L001 further requires that shroud systems be installed at the outlets of the jaw and cone crushers to control fugitive emissions.
27. Permit No. 70136L001 requires Applicant to install permanently mounted spray bars at all shaker screens and at all material transfer points and operate them as necessary to control dust. Permit No. 70136L001 further specifies that fog-type spray nozzles be installed and operated as necessary at the screen to control fugitive emissions.
28. Permit No. 70136L001 requires Applicant to maintain all abatement systems in good working order and immediately make appropriate corrections and/or repairs to any facility equipment if the opacity/visible emissions requirements of the permit cannot be met. In addition, Permit No. 70136L001 requires all nozzles to be changed every 60 days.

29. Applicant has engineered the spray bars on the primary and secondary crushers to make them spray automatically. The spray bars on the primary and secondary crushers operate whenever the crushers are operating.
30. Applicant represented in its original application for the portable concrete crushing facility that the outlet of the primary and secondary crushers, as well as the screens, will be equipped with a "rubber boot" enclosure designed to further control emissions. These representations are enforceable conditions of the permit under 30 TEX. ADMIN. CODE § 116.116(a).
31. Permit No. 70136L001 specifies that opacity from any transfer point on the belt conveyors or any screen shall not exceed 10 percent, averaged over a 6-minute period, except for those periods described in 30 TEX. ADMIN. CODE §§ 101.201 and 101.211.
32. Permit No. 70136L001 specifies that opacity from any crusher shall not exceed 15 percent, averaged over a 6-minute period, except for those periods described in 30 TEX. ADMIN. CODE §§ 101.201 and 101.211.
33. Permit No. 70136L001 specifies that no visible emissions from the crushers, screens, transfer points on belt conveyors, material storage or feed bins shall leave the property, determined by a standard of no visible emissions exceeding 30 seconds in duration in any six-minute period, except for those periods described in 30 TEX. ADMIN. CODE §§ 101.201 and 101.211.

#### **Applicant's Emissions Calculations and Modeling**

34. The United States Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for pollutants, including  $PM_{10}$  and  $PM_{2.5}$ .  $PM_{10}$  is particulate matter with a diameter less than 10 microns, while  $PM_{2.5}$  is particulate matter with a diameter less than 2.5 microns.

35. Emissions less than the NAAQS are presumed to be protective of public health. The existing NAAQS for PM<sub>2.5</sub> (both primary and secondary) are 15 µg/m<sup>3</sup> for the annual standard and 65 µg/m<sup>3</sup> for the 24-hour standard.
36. The Commission has established state property-line standards governing the emission of total suspended particulate (TSP) matter. Under the state property-line standards, emissions of TSP from sources on contiguous properties are not to exceed the following net ground level concentrations: 200 µg/m<sup>3</sup> for a 3-hour averaging period and 400 µg/m<sup>3</sup> for a 1-hour averaging period.
37. The EPA has provided guidance, found in EPA document AP-42, for conducting the most reliable calculations of road emissions in regard to particulate matter.
38. The AP-42 document provides different calculations and considerations based upon an analysis of emissions from paved and unpaved roads.
39. The paved road emission factor was developed using freely-flowing vehicles traveling at speeds of 10-55 miles per hour (mph), while the unpaved road factor was developed in consideration of vehicles traveling as slowly as 5 mph.
40. The longest uninterrupted stretch of road at the site is approximately 400-450 feet, and the roads and traffic at the 288 Yard are not expected to match the conditions on which the paved road factor is based. Vehicles entering the site will be traveling at a relatively low speed, and will stop numerous times throughout the trip into the site (at the scale station, at the materials stockpile, and turning around to exit the site).
41. Applicant utilized an appropriate formula for calculating emissions for the proposed facility's haul roads.

- a. Applicant calculated the emission rates for the haul roads utilizing the formula from EPA's AP-42 emission factors for calculating emissions from unpaved roads, AP-42 Section 13.2.2.
  - b. The unpaved road emission factor is appropriate and more accurate than the paved road factor for calculating haul road emissions for the proposed facility, due to the speed of the traffic at the proposed facility and the fact that traffic at the proposed facility will be stop-and-go traffic and not freely flowing traffic.
  - c. TCEQ guidance on calculating haul road emissions in the TCEQ's *Concrete Batch Plant* guidance document establishes a method by which an applicant can apply a control efficiency for paving when haul road emissions are properly calculated using the unpaved road emission factor.
  - d. In at least two prior air permitting cases, involving Frontier Materials (SOAH Docket No. 582-01-2303) and Ingram Ready Mix (SOAH Docket No. 582-98-1009), the Commission has recognized and allowed the use of the unpaved road factor in regard to predicting emissions from concrete facilities.
42. In conducting emissions modeling, Applicant did not include road emissions in short-term calculations (*i.e.*, for 1-hour, 3-hour, and 24-hour averaging periods).
43. Applicant's decision not to include emissions from haul roads in the modeling runs used to demonstrate compliance with the 24-hour NAAQS and the 1-hour and 3-hour TSP net ground level concentrations followed TCEQ's *Air Quality Modeling Guidelines* and TCEQ policy.
- a. TCEQ's *Air Quality Modeling Guidelines* state that "in general, do not include road emissions in permit modeling analyses for short-term averaging periods—periods less than annual."

- b. A December 2000 TNRCC Interoffice Memorandum from the Director of TCEQ's Air Permits Division titled *Policy for Road Emissions Evaluation* states that road dust emissions should not be calculated or impacts analyses performed for short-term (1-hour, 3-hour or 24-hour) averaging periods.
- 44. For short term modeling that does include road emissions, the more reliable calculations will also include all applicable control factors.
  - 45. The main entrance/exit road to the 288 Yard will be paved, wet swept, and vacuumed.
  - 46. Under the Commission's modeling guidelines, a 99% control factor may be applied for roads that are paved, wet swept, and vacuumed.
  - 47. The most reliable modeling shows that the 1-hour and 3-hour property line standards for TSP will not be exceeded by the operation of the facility.
  - 48. Applicant properly considered the 288 Yard haul roads paved when calculating emissions from the proposed facility.
    - a. The permit requires that plant roads shall be paved with a cohesive hard surface which can be cleaned by sweeping or washing.
    - b. The internal plant roads will be approximately two feet thick, with a base of approximately 18 inches of concrete rubble, then six inches of milled concrete, topped off by three inches of milled asphalt that is laid down and compacted with a roller to form a hard, impermeable road surface that is capable of being washed.
  - 49. Applicant utilized an appropriate formula for calculating stockpile emissions when it used the formula provided in the TCEQ's *Rock Crushing Plants* guidance.

50. Applicant's emissions calculations for the proposed facility's stockpiles represent accurate and conservative calculations of the proposed facility's actual stockpile emissions.
51. The emission rates calculated by Applicant for the facilities authorized by Permit No. 70136L001 are lower than the emission limits included on the Maximum Allowable Emission Rate Table (MAERT) for Permit No. 70136L001.
52. Applicant selected appropriate background monitor locations and used appropriate background concentrations of  $PM_{10}$  and  $PM_{2.5}$  in its modeling.
- a. Applicant followed the guidance provided by the TCEQ Interoffice Memorandum titled *Background Concentration Determination for Use in NAAQS Analyses* in identifying the background monitor locations used in Applicant's modeling.
  - b. Applicant selected a background monitor location for  $PM_{2.5}$  that is approximately 10 kilometers from the 288 Yard.
  - c. The  $PM_{2.5}$  monitor selected by Applicant is the nearest available monitor to the 288 Yard and is in the same relative location as the 288 Yard with respect to downtown Houston and the heavily industrialized corridor along the Houston Ship Channel.
53. Applicant calculated the emission rates for the proposed facility's aggregate handling, crushing, screening and conveying operations in accordance with the TCEQ's *Rock Crushing Plants* guidance.
54. Applicant utilized appropriate formulas for calculating emissions for the proposed facility's aggregate handling, crushing, screening and conveying operations when it used the formulas provided in the TCEQ's *Rock Crushing Plants* guidance.

55. Applicant's emissions calculations for the proposed facility's aggregate handling, crushing, screening and conveying operations represent accurate and conservative calculations of the proposed facility's actual emissions.
56. Applicant's emissions calculations are accurate.
57. Applicant modeled the predicted maximum impacts of emissions from the proposed facility in accordance with TCEQ's *Air Quality Modeling Guidelines* and TCEQ policy.
58. The modeling runs performed by Applicant represent accurate and conservative predictions of air quality impacts from the proposed facility.

**Facility's Effect on Health of People Living within One Mile**

59. Emissions of PM<sub>10</sub> from operation of the proposed facility will not cause adverse health effects to people living within a mile of the facility.
  - a. The modeling performed by Applicant predicts that emissions of PM<sub>10</sub> from the proposed facility, when added to PM<sub>10</sub> ambient background concentrations, will not cause maximum ground level concentrations to exceed 150 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) averaged over any 24-hour period or 50  $\mu\text{g}/\text{m}^3$  averaged over any annual period, the EPA's primary and secondary NAAQS for PM<sub>10</sub>.
  - b. The modeling performed by Protestants predicts that emissions of PM<sub>10</sub> from the proposed facility, when added to PM<sub>10</sub> ambient background concentrations, will not cause maximum ground level concentrations to exceed 150 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) averaged over any 24-hour period or 50  $\mu\text{g}/\text{m}^3$  averaged over any annual period, the EPA's primary and secondary NAAQS for PM<sub>10</sub>.

60. Emissions of  $PM_{2.5}$  from operation of the proposed facility will not cause adverse health effects to people living within a mile of the facility.
- a. The different modeling performed by all expert witnesses in the case predict that emissions of  $PM_{2.5}$  from the proposed facility, when added to  $PM_{2.5}$  ambient background concentrations, will not cause maximum ground level concentrations to exceed  $65 \mu\text{g}/\text{m}^3$  averaged over any 24-hour period or  $15 \mu\text{g}/\text{m}^3$  averaged over any annual period, the U.S. EPA's current primary and secondary NAAQS for  $PM_{2.5}$ .
  - b. The current  $PM_{2.5}$  NAAQS is the proper standard for evaluating potential adverse health impacts associated with emissions of  $PM_{2.5}$  from the proposed facility.
  - c. The EPA staff has completed an initial review of the NAAQS and has published the EPA Office of Air Quality and Planning Standards Staff Paper (Staff Paper) which evaluates available scientific studies and recommends that either (1) the annual  $PM_{2.5}$  standard remain the same, but the 24-hour standard be lowered to between 25 and 35  $\mu\text{g}/\text{m}^3$ , or (2) the  $PM_{2.5}$  standards be lowered to between 12 to 14  $\mu\text{g}/\text{m}^3$  for the annual standard and 30 to 40  $\mu\text{g}/\text{m}^3$  for the 24-hour standard. These proposals have not been adopted by the EPA Administrator and, prior to such adoption, are subject to revision or outright rejection by the Administrator.
  - d. Applicant's modeling calculations show  $PM_{2.5}$  predicted maximum ground level concentrations as being at 11.7  $\mu\text{g}/\text{m}^3$  annually and 36.1  $\mu\text{g}/\text{m}^3$  for the 24-hour averaging period. These amounts are within the Staff Paper's alternate proposal of lowering the annual standard to between 12 and 14  $\mu\text{g}/\text{m}^3$  and setting the 24-hour standard to between 30 and 40  $\mu\text{g}/\text{m}^3$ .
  - e. Particulate matter consisting of crustal materials is less associated with health risks than particulate matter consisting of combustion or aerosol constituents.

- f. The majority of emissions from the facility will consist of materials that can be classified as crustal in nature.
61. Emissions of TSP from operation of the proposed facility will not cause adverse health effects to people living within a mile of the facility.
- a. TSP emissions from the proposed facility will not cause net ground level concentrations of TSP to exceed  $200 \mu\text{g}/\text{m}^3$  for a three-hour averaging period or  $400 \mu\text{g}/\text{m}^3$  for a one-hour averaging period, which are the limits established in 30 TEX. ADMIN. CODE § 111.155.
  - b. Properly excluding haul road emissions, persuasive modeling performed by Applicant establishes that maximum ground level concentrations of TSP will not exceed  $84.7 \mu\text{g}/\text{m}^3$  for a three-hour averaging period or  $132.1 \mu\text{g}/\text{m}^3$  for a one-hour averaging period.
  - c. Even if haul road emissions are included in the modeling, maximum ground level concentrations of TSP will not exceed  $147 \mu\text{g}/\text{m}^3$  for a three-hour averaging period or  $262 \mu\text{g}/\text{m}^3$  for a one-hour averaging period, after accounting for the control factors of wet sweeping and vacuuming the 288 Yard main entrance and exit road.
62. Emissions of crystalline silica from operation of the proposed facility will not cause adverse health effects to people living within a mile of the facility.
- a. TCEQ staff has developed effects screening levels (ESLs) for ground level concentrations of emitted constituents. The ESLs are prepared by the staff of the Commission's Toxicology Section and identify the levels at which the members of that section believe that a constituent may unquestionably be emitted without causing adverse health or other effects.

- b. Modeling performed by the Applicant predicts that emissions of crystalline silica from the proposed facility will not exceed the ESLs for crystalline silica, which are  $1.0 \mu\text{g}/\text{m}^3$  for a one-hour averaging period and  $0.1 \mu\text{g}/\text{m}^3$  for an annual averaging period.
  - c. Modeling performed by the Protestants predicts that emissions of crystalline silica from the proposed facility will fall below the annual ESL for crystalline silica.
  - d. Although modeling performed by the Protestants predicts emissions of crystalline silica that will exceed the 1-hour ESL, the crystalline silica impacts predicted by Protestants do not present a threat to human health due to the low hourly concentration and the low number of exceedances of the ESL.
63. Emissions from the proposed facility will not have an adverse impact on the health of requesters who live within one mile of the facility.

**Facility's Effect on Use and Enjoyment of Property and Property Values**

64. No significant emissions are likely to occur offsite in the area of either Texas Pipe or Horticultural Consultants, Inc.
65. Applicant has a perfect 0.0 Compliance History Rating for the concrete crusher at issue in this case.
66. None of Applicant's facilities have had any NOV or nuisance dust complaints since 2002.
67. Operation of the facility is not likely to have an adverse effect on the ability of persons or entities around the facility to use and enjoy their property or cause damage to property around the facility.

### **Effect of the Facility's Emissions on Air Quality**

68. Although the operation of the facility will result in increased emissions, such increases will not be so significant as to result in the exceedance of any existing standards.
69. Emissions from the proposed facility are not likely to have an adverse effect on air quality.

### **Stockpile Emissions and Limitations**

70. Permit No. 70136L001 includes the following conditions for the stockpiles:
  - a. No visible fugitive emissions from the stockpiles may leave the property, except for those periods described in 30 TEX. ADMIN. CODE §§ 101.201 and 101.211.
  - b. Area-type or truck-mounted water sprays shall be operated at all product stockpiles and active work areas.
  - c. All product stockpiles shall be sprinkled with water and/or environmentally sensitive chemicals upon detection of visible particulate emissions to maintain compliance with all TCEQ rules and regulations.
  - d. Stockpiles must be located at least 25 feet from any property line or, in lieu of meeting the setback requirement, stockpiles must be contained within a three-walled bunker that extends at least two feet above the top of the stockpile.
71. Permit No. 40072 does not contain a stockpile height limitation.
72. Higher stockpile heights increase the likelihood that emissions will travel further off-site.

73. The higher the stockpile height, the more likely the chance that emissions that would ordinarily be confined closer to the site will, in fact, reach local residential areas or places of education or worship.
74. Stockpile height limitations have been included in other permits for sites.
75. TCEQ's Air Quality Standard Permit for Temporary Rock Crushers, which applies state-wide, includes a permit provision that states that "raw material and product stockpile height shall not exceed 45 feet."
76. A stockpile height limitation will provide further protection from the possibility that emissions from the facility will not create nuisance conditions for local residential areas or places of education or worship.
77. Special Conditions 5A and 5B do not include watering requirements for raw material stockpiles.
78. The proposed permit requires no minimum scheduled watering.
79. A requirement for watering stockpiles twice daily will provide additional protection from the possibility of emissions traveling offsite and resulting in nuisance conditions.
80. Permit No. 70136L001 establishes the following recordkeeping requirements:
  - a. Applicant must maintain records of daily and annual amounts of materials processed;
  - b. Applicant must maintain records of daily road cleaning; and
  - c. Applicant must maintain records of all repairs and maintenance of abatement systems.

81. Permit No. 70136L001 prohibits the crushing of concrete containing asbestos.
82. A limited group of concrete products—concrete pipe and concrete tile—may contain asbestos.
83. Disposal of asbestos-containing concrete or any other asbestos-containing material at the proposed facility would violate state and federal laws.
84. Applicant has signs posted at its crushing yards, including the proposed facility, clearly stating that the facility does not accept hazardous waste.
85. Applicant trains its employees to identify materials potentially containing asbestos.
86. Applicant will employ a series of inspections to ensure that asbestos-containing concrete is not crushed at the proposed facility, including the visual inspection of each truckload of raw material after it enters the proposed facility, visual inspection of the raw material as it is dropped onto the raw material stockpile, and visual inspection of the raw material as it enters the crusher.
87. A record-keeping requirement to document that Applicant has complied with the prohibition on crushing concrete that contains asbestos is not necessary.
88. A record-keeping requirement that Applicant maintain a log of all waterings would provide a useful means of determining Applicant's efforts at reducing emissions and would be a practical means to show compliance with permit requirements.

## Transcript Costs

89. The City of Houston did not participate as actively in the hearing and did not rely on the transcript to the degree Applicant and Harris County did, but it has the financial resources to bear a portion of the transcript costs and has shown a willingness to do so.
90. It is just and reasonable to allocate 10% of transcript costs to the City of Houston.
91. Harris County used the transcript significantly, participated in the hearing more than any other party except for Applicant, and has the financial resources to bear a portion of the transcript costs.
92. It is just and reasonable to allocate 10% of transcript costs to Harris County.
93. Applicant participated in the hearing extensively, used the transcript significantly in its briefing, has the financial resources to bear the costs, and has benefitted most from the transcript.
94. It is just and reasonable to allocate 80% of transcript costs to Applicant.

## **II. CONCLUSIONS OF LAW**

1. The Commission has jurisdiction to consider Applicant's application for the change of location of its portable concrete crushing facility pursuant to TEX. HEALTH & SAFETY CODE ANN. chapter 382.
2. SOAH has jurisdiction to conduct a hearing and to prepare a PFD in this matter. TEX. GOV'T CODE ANN. § 2003.047.
3. Notice was provided pursuant to TEX. HEALTH & SAFETY CODE § 382.056, TEX. GOV'T CODE ANN. §§ 2001.051 and 2001.052, and 30 TEX. ADMIN. CODE § 39.601, *et seq.*

4. In a contested case hearing involving an air quality permit application, the burden of proof is on the applicant to demonstrate that it has addressed the issues referred by the Commission to SOAH by a preponderance of the evidence. 30 TEX. ADMIN. CODE § 80.17(a).
5. The NAAQS are ambient air quality standards that EPA has determined are requisite to protect the public health and welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. 42 U.S. CODE ANN. (U.S.C.A.) §§ 7409(a) and 7409(b)(1) and (2).
6. The Commission has adopted the NAAQS by reference and specified that they are to be enforced throughout Texas. 30 TEX. ADMIN. CODE § 101.21.
7. The Commission has established state property line standards governing the emission of total suspended particulate matter and established net ground level concentrations that should not be exceeded. 30 TEX. ADMIN. CODE § 111.155.
8. TCEQ staff has developed effects screening levels (ESLs) for ground level concentrations of emitted constituents that identify the levels at which a constituent may be emitted without likely causing any adverse health or other effects.
9. Applicant's emissions calculations and modeling are accurate and show that expected emissions from the facility will not exceed the NAAQS, state property line standards, or any applicable ESLs.
10. Operation of the facility is not expected or likely to have an adverse effect on the health of the requesters who live within one mile of the facility.

11. Operation of the facility is not expected or likely to have an adverse effect on the ability of the requesters to use and enjoy their property or cause damage to the requester's property.
12. Operation of the facility is not expected or likely to have an adverse effect on air quality.
13. Stockpile emissions are adequately addressed in the permit conditions, except that a stockpile height limitation of 45 feet is appropriate and should be added to the permit conditions.
14. The record keeping requirements set forth in the draft permit are sufficient to enable enforcement, except that a requirement that Applicant maintain a log of all waterings should be included as a permit condition.
15. The proposed facility will use the best available control technology, considering the technical practicability and economic reasonableness of reducing or eliminating the emissions resulting from the facility.
16. There is no indication that the emissions from the proposed facility will contravene the intent of Chapter 382 of the Texas Health and Safety Code, including protection of the public's health and physical property.
17. The following permit requirements should be added:
  - a. Applicant should be required to post signs at the 288 Yard indicating that the speed limit on all site roads is six miles per hour.
  - b. Applicant should be required to wet sweep and vacuum entrance and exit roads daily.
  - c. Applicant should be required to water all stockpiles, both raw material and finished product, at least twice daily on all days for which there is no measurable amount of precipitation at the 288 Yard.

- d. Applicant should be required to maintain a record (*i.e.*, a log) of all on-site waterings.
  - e. Stockpiles at the facility should not exceed 45 feet in height.
18. The application by Applicant for change of location of the portable concrete crushing facility should be approved in accordance with the terms and conditions of Permit No. 70136L001, as modified by this order.

**NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT:**

1. The application by Southern Crushed Concrete, Inc., for change of location under Permit No. 70136L001 is approved in accordance with the terms and conditions contained in the attached permit, except as modified below in that the permit shall include each of the following special conditions or requirements:
- a. All raw materials and finished product stockpiles shall be sprinkled with water and/or environmentally sensitive chemicals twice daily, except on days when there has been a measurable amount of precipitation at the facility. All applications of water and/or environmentally sensitive chemicals at the facility shall be recorded in a log identifying the date, time, location, and application material (*i.e.*, water or environmentally sensitive chemicals).
  - b. Signs shall be posted at the facility indicating that the speed limit on all site roads is six miles per hour.
  - c. Paved entrance and exit roads shall be wet swept and vacuumed at least once per day, for each day the facility is operating.
  - d. No stockpiles, either raw material or finished product, shall exceed 45 feet in height.

2. The Executive Director's Response to Public Comment on Draft Permit No. 70136L001 is adopted and approved.
3. Harris County and the City of Houston shall each pay Applicant 10% of the court reporting and transcription costs of the hearing on the merits, in reimbursement of such party's share of transcript costs, no later than thirty (30) days after the effective date of this Order.
4. All motions, requests for entry of specific findings of fact or conclusions of law, and any other requests for general or specific relief not expressly granted herein, are hereby DENIED.
5. The Chief Clerk of the TCEQ forward a copy of this Order and the attached permit, as modified by this order, to all parties and issue the attached permit as modified by this order.
6. If any provision, sentence, clause or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of the Order.
7. The effective date of this Order is the date the Order is final, as provided by 30 TEX. ADMIN. CODE § 80.273 and TEX. GOV'T CODE § 2001.144.

ISSUED:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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Kathleen Hartnett White, Chairman  
For the Commission