

State Office of Administrative Hearings

Kristofer Monson
Chief Administrative Law Judge

September 3, 2019

Mary Smith
General Counsel
Texas Commission on Environmental Quality
12100 Park 35 Circle, Bldg. F, Room 4225
Austin Texas 78753

Re: **SOAH Docket No. 582-19-1955; TCEQ Docket No. 2018-1303-AIR;
Application of Vulcan Construction Materials, LLC for Permit No.
147392L001**

Dear Ms. Smith:

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 documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than September 23, 2019. Any replies to exceptions or briefs must be filed in the same manner no later than October 3, 2019.

This matter has been designated **TCEQ Docket No. 2018-1303-AIR; SOAH Docket No. 582-19-1955**. All documents to be filed must clearly reference these assigned docket numbers. All exceptions, briefs and replies along with certification of service to the above parties shall be filed with the Chief Clerk of the TCEQ electronically at <http://www14.tceq.texas.gov/epic/eFiling/> or

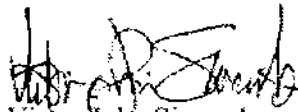
by filing an original and seven copies with the Chief Clerk of the TCEQ. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

A handwritten signature in black ink that reads "Rebecca S. Smith". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

Rebecca S. Smith
Administrative Law Judge

Sincerely,

A handwritten signature in black ink that reads "Victor John Simonds". The signature is cursive and somewhat stylized, with the first letters being capitalized.

Victor John Simonds
Administrative Law Judge

Enclosures
cc: Mailing List

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STYLE/CASE: VULCAN CONSTRUCTION MATERIALS, LLC

SOAH DOCKET NUMBER: 582-19-1955

REFERRING AGENCY CASE: 2018-1303-AIR

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**SOAH DOCKET NO. 582-19-1955
TCEQ DOCKET NO. 2018-1303-AIR**

APPLICATION OF	§	BEFORE THE
VULCAN CONSTRUCTION	§	
MATERIALS, LLC FOR PERMIT	§	STATE OFFICE OF
NO. 147392L001,	§	
COMAL COUNTY, TEXAS	§	ADMINISTRATIVE HEARINGS

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PROPOSAL FOR DECISION

I. INTRODUCTION

On June 26, 2017, Vulcan Construction Materials, LLC (Applicant or Vulcan) submitted an application (Application) to the Texas Commission on Environmental Quality (TCEQ or Commission) for an air quality permit for a new rock crushing plant (Plant) to be located in Bulverde, Comal County, Texas. The Executive Director (ED) of the Commission issued a Draft Permit on the Application on January 19, 2018.

Following a public meeting, the TCEQ received numerous comments and requests for a hearing on the permit request. Ultimately, individual protestants were aligned into two groups: (1) Harrison Protestants and (2) Friends of Dry Comal Creek¹ (Friends Protestants). Generally, the protestants argue that Vulcan's permit request was deficient and should be rejected. Alternatively, the protestants argue that the draft permit should be revised to better protect air quality, human health, and property. The ED and the Office of Public Interest Counsel (OPIC) disagree and contend the Draft Permit should be approved. For reasons set out below, the Administrative Law Judges (ALJs) recommend that the TCEQ approve issuance of the Draft Permit with no changes.

¹ Friends of Dry Comal Creek is one of two groups represented by the same counsel. The second group is called Stop 3009 Vulcan Quarry was represented by the same counsel as Friends of Dry Comal Creek.

A. Background

Vulcan proposes to construct the Plant on property whose northeast corner is the southwest corner of the intersection of Highway 46 and Farm-to-Market Road 3008, Bulverde, Comal County, Texas. Plant operations would generate a number of air contaminants, including organic compounds, sulfur dioxide, and particulate matter (PM) with diameters of 10 microns or less (PM₁₀) and 2.5 microns or less (PM_{2.5}). Quarrying would also take place at the same location.

On July 5, 2017, the ED declared the Application administratively complete. On January 19, 2018, the ED concluded that the Application was technically complete and issued the Draft Permit.²

B. Procedural History

On July 28, 2017, Vulcan published Notice of Receipt and Intent to Obtain an Air Quality Permit in *La Prensa Comunidad del Valle*. On July 31, 2017, Vulcan published the notice in the *San Antonio Express-News*. A public meeting was held in New Braunfels on February 27, 2018, the day the public comment period ended. On December 12, 2018, the TCEQ considered various comments and hearing requests. The TCEQ issued an interim order the next day and referred nineteen issues to the State Office of Administrative Hearings (SOAH) for a contested case hearing on the application.

On March 6, 2019, ALJ Rebecca S. Smith conducted a preliminary hearing in Comal County, Texas and issued Order 1, which set the procedural schedule and aligned the individual protestants into two groups: Friends Protestants and Harrison Protestants. Subsequently, Friends Protestants filed a Motion to Compel Discovery, and Vulcan filed a response asserting a trade-secret privilege over the requested materials. On May 10, 2019, ALJ Smith issued Order 2, denying the Friends Protestants' motion. However, the order also

² Draft Permit No. 147392L001.

prohibited Vulcan from using the otherwise responsive trade-secret information (i.e., certain subsurface data) in its pre-filed testimony or at the hearing on the merits.

ALJ Victor John Simonds joined ALJ Smith and co-versed a hearing on the merits on June 10 and 11, 2019, at SOAH, 300 West 15th Street, in Austin, Texas. At the hearing, all protestants were represented by attorneys Eric Allmon and David Frederick.³ Vulcan was represented by attorneys Derek Seal and Keith Courtney. The ED was represented by attorneys Nicholas Parke, Colleen Ford, and Katie Moore. OPIC was represented by attorney Pranjal Mehta. Protestants presented the expert testimony of three witnesses: Howard Gebhart; Thomas Dydek, Ph.D and P.E.; and Joe Collins, Jr., PhD. Vulcan presented the expert testimony of four witnesses, Gary Nicholls, P.E.; David Knollhoff; Lucy Fraiser, Ph.D.; Lori Eversull, Ph.D. and P.E.; and Thomas Mathews, P.G. The ED presented the testimony of Joel Stanford; Rachel Melton; and Jong-Song Lee, Ph.D. and MPH. The record closed on July 10, 2019, after the parties filed written closing arguments and replies.

II. APPLICABLE LAW

A. Burden of Proof and Prima Facie Case

The Application was filed after September 1, 2015, and the TCEQ referred it under Texas Water Code § 5.556, which governs referral of environmental permitting cases to SOAH based on a request for a contested case hearing.⁴ Therefore, this case is subject to Texas Government Code § 2003.047(i-1)-(i-3),⁵ which provides:

- (i-1) In a contested case regarding a permit application referred under Section 5.556 . . . [of the] Water Code, the filing with [SOAH] of the application, the draft permit prepared by the executive director of the

³ For all other hearing purposes, the Harrison Protestants were represented by attorney James Bradbury.

⁴ Tex. Water Code §§ 5.551(a), .556; *see* Tex. Health & Safety Code § 382.056(n) (requiring the Commission to follow the procedures in Sections 5.556 and 5.557 of the Texas Water Code when considering a request for a public hearing for a permit under the Texas Clean Air Act).

⁵ Acts 2015, 84th Leg., R.S., ch. 116 (S.B. 709), §§ 1 and 5, eff. Sept. 1, 2015.

commission, the preliminary decision issued by the executive director, and other sufficient supporting documentation in the administrative record of the permit application establishes a prima facie demonstration that:

- (1) the draft permit meets all state and federal legal and technical requirements; and
 - (2) a permit, if issued consistent with the draft permit, would protect human health and safety, the environment, and physical property.
- (i-2) A party may rebut a demonstration under Subsection (i-1) by presenting evidence that:
- (1) relates to . . . an issue included in a list submitted under Subsection (e) in connection with a matter referred under Section 5.556, Water Code; and
 - (2) demonstrates that one or more provisions in the draft permit violate a specifically applicable state or federal requirement.
- (i-3) If in accordance with Subsection (i-2) a party rebuts a presumption established under Subsection (i-1), the applicant and the executive director may present additional evidence to support the draft permit.

Although this law creates a presumption, sets up a method for rebutting that presumption, and shifts the burden of production on that rebuttal, it does not change the underlying burden of proof. Accordingly, the burden of proof remains with the Applicant to establish by a preponderance of the evidence that the Application would not violate applicable requirements and that a permit, if issued consistent with the draft permit, would protect human health and safety, the environment, and physical property.⁶

In this case, the Application, the Draft Permit, and the other materials listed in Texas Government Code § 2003.047(i-1), which are collectively referred to as the “Prima Facie Demonstration,” were offered and admitted into the record at the preliminary hearing.⁷

⁶ 30 Tex. Admin. Code § 80.17(a), (c).

⁷ Exhibit App-1 (administrative record) and Exhibit App-2 (jurisdictional exhibits).

B. Texas Clean Air Act

The Texas Clean Air Act (TCAA)⁸ grants the TCEQ authority to issue a permit to construct a new facility that may emit air contaminants.⁹ The TCAA defines a facility as a “discrete or identifiable structure, device, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emission control equipment. A mine, quarry, well test, or road is not considered to be a facility.”¹⁰ Under the TCAA, the TCEQ shall grant a permit to construct a facility if it finds:

- (1) the proposed facility for which a permit . . . is sought will use at least the best available control technology, considering the technical practicability and economic reasonableness of reducing or eliminating the emissions resulting from the facility; and
- (2) no indication that the emissions from the facility will contravene the intent of [the TCAA], including protection of the public’s health and physical property¹¹

Under the TCEQ’s rules—particularly 30 Texas Administrative Code § 116.111—an applicant for an air quality permit must include in its application information demonstrating that emissions from the facility will meet the requirements for the best available control technology (BACT),¹² with consideration given to the technical practicability and economic reasonableness of reducing or eliminating the emissions from the facility.¹³ The Applicant must also show that the proposed facility will achieve the performance specified in the permit application.¹⁴

⁸ Tex. Health & Safety Code ch. 382.

⁹ Tex. Health & Safety Code § 382.051(a)(1).

¹⁰ Tex. Health & Safety Code § 382.003(6); *see also* 30 Tex. Admin. Code § 116.10(4).

¹¹ Tex. Health & Safety Code § 382.0518(b).

¹² 30 Tex. Admin. Code § 116.111(a)(2)(C).

¹³ Tex. Health & Safety Code § 382.0518(b)(1).

¹⁴ 30 Tex. Admin. Code § 116.111(a)(2)(G).

III. REFERRED ISSUES

The TCEQ referred the following issues for hearing:

- A. Whether the proposed plant will negatively affect human health, including sensitive subgroups, and physical property;
- B. Whether the conditions in the proposed permit will adequately protect against dust emissions from the proposed plant, including during periods of high winds;
- C. Whether cumulative impacts of existing sources were properly considered;
- D. Whether the controls in the proposed permit constitute Best Available Control Technology;
- E. Whether the proposed facility will adversely affect wildlife, vegetation, flora and fauna;
- F. Whether the proposed operating hours of the rock crusher ensure that there will be no adverse impacts to human health, welfare, and the environment;
- G. Whether the air quality modeling conducted as part of this application adequately incorporated the local prevailing winds;
- H. Whether the Applicant complied with TCEQ's public notice requirements related to sign-posting and newspaper notice;
- I. Whether the proposed permit contains adequate monitoring and recordkeeping requirements to ensure compliance with all applicable rules and requirements;
- J. Whether emissions from on-site diesel engines are adequately calculated and adequately controlled;
- K. Whether an adequate site review was conducted for this application;
- L. Whether the background concentrations used in the air dispersion modeling are representative of the proposed location of the plant;
- M. Whether emissions from maintenance, start-up, and shutdown activities are adequately addressed in the proposed permit;
- N. Whether chemical dust suppressant is safe to use as a control for emissions from the proposed plant;

- O. Whether emissions of silica from the proposed plant will negatively impact human health and welfare;
- P. Whether the proposed permit conditions, including emissions limitations, are enforceable;
- Q. Whether the permit application, and associated air dispersion modeling, included and properly evaluated all applicable emissions;
- R. Whether site specific monitoring data should have been used in the air dispersion modeling conducted for this application; and
- S. Whether the Applicant's compliance history precludes issuance of the draft permit or necessitates additional special conditions in the draft permit.

Several issues were not briefed and are, accordingly, waived. The waived issues are Issue H (public notice), Issue K (site review), Issue M (maintenance, start-up, and shutdown activities), Issue N (chemical dust suppressant), and Issue S (compliance history). The waived issues will not be discussed further in this Proposal for Decision.

The remaining issues, along with allocation of transcription costs, are discussed in detail below. Related issues will be discussed in the same sections. These issues will be broken into the following categories:

- Air Dispersion Modeling and National Ambient Air Quality Standards (NAAQS) Analysis
- Effect on Human Health, Physical Property, Wildlife, and Vegetation
- Control of Emissions (Dust, BACT, Diesel)
- Enforceability, Monitoring and Recordkeeping, and Operating Hours

IV. ISSUES RELATED TO AIR DISPERSION MODELING AND NAAQS ANALYSIS

Air dispersion modeling is performed to calculate the off-site ground level concentration (GLC) of pollutants that will be emitted from a proposed facility. This modeling is used to demonstrate whether the air quality impacts from a proposed new facility will meet the applicable air quality standards and guidelines.¹⁵ Modeling consists of a mathematical simulation of how pollutants from emission sources will disperse in the atmosphere and what the off-site GLCs of those pollutants will be at different distances and directions.¹⁶ This modeling is then used in an Air Quality Analysis (AQA). The AQA is used to compare the anticipated maximum ground level concentrations (GLC_{max}) of pollutants to the NAAQS, to the TCEQ's state property line standards, and to the TCEQ's effects screening levels (ESLs).

The NAAQS, which are set by the United States Environmental Protection Agency (EPA) and adopted by the TCEQ,¹⁷ apply to six criteria pollutants: sulfur dioxide; ozone; nitrogen dioxide (NO₂); carbon monoxide; lead; and particulate matter (PM), including PM₁₀ and PM_{2.5}.¹⁸ Two non-NAAQS pollutants are also at issue here: crystalline silica and diesel fuel.

Vulcan's modeling and subsequent AQA was performed by David Knollhoff, who testified at hearing. Mr. Knollhoff testified that he used an air dispersion model called AERMOD to conduct the modeling.¹⁹ When performing this modeling, he included the maximum allowable emissions (based on permits) from nearby emissions sources. For each pollutant, the modeling resulted in a predicted GLC_{max}.

¹⁵ Ex. ED-22 (Melton direct) at 4.

¹⁶ Ex. App-DK1 (Knollhoff direct) at 9; Ex. ED-22 (Melton direct) at 4.

¹⁷ 30 Tex. Admin. Code § 101.21.

¹⁸ 40 CFR part 50.

¹⁹ Ex. App-DK1 (Knollhoff direct) at 9.

For the criteria pollutants (in other words, the pollutants for which there are NAAQS), Mr. Knollhoff conducted a full Minor NAAQS analysis.²⁰ This analysis involved determining the representative background concentration for each criteria pollutant and averaging time, and then adding it to its modeled GLC_{max} to determine the total maximum off-site GLC. In other words, the maximum off-site GLC consisted of the results of the modeling (which included emissions from nearby sources) plus a background concentration amount for each pollutant. This total maximum off-site GLC was then compared to the NAAQS. In the case of crystalline silica and diesel fuel, the maximum off-site GLC was compared to the applicable hourly and annual Effects Screening Levels (ESLs).

Under this analysis, the maximum off-site GLCs for all the pollutants were lower, and generally significantly lower, than the NAAQS. Mr. Knollhoff's testimony contained a chart of the comparison, which is reproduced below for the pollutants that are at issue.²¹

AQA	Total Maximum Off-site GLC or GLC_{max} in Micrograms per Cubic Meter ($\mu g/m^3$)	NAAQS, ESL, or State Property Line Standard ($\mu g/m^3$)	Percent of NAAQS, ESL, or State Property Line Standard
24-hour PM_{10} full Minor NAAQS	70.16	150	46.8%
24-hour $PM_{2.5}$ full Minor NAAQS	24.03	35	68.7%
Annual $PM_{2.5}$ full Minor NAAQS (without modeled road emissions)	8.57	12	71.4%

²⁰ Ex. App-DK1 (Knollhoff direct) at 10.

²¹ Ex. App-DK1 (Knollhoff direct) at 11-12.

AQA	Total Maximum Off-site GLC or GLCmax in micrograms per cubic meter (µg/m3)	NAAQS, ESL, or State Property Line Standard (µg/m3)	Percent of NAAQS, ESL, or State Property Line Standard
Annual PM _{2.5} full Minor NAAQS (with modeled road emissions)	9.10	12	75.8%
1-hour Diesel Fuel Health Effects Analysis	33.70	1,000	3.4%
Annual Diesel Fuel Health Effects Analysis	.35	100	0.4%
1-hour Crystalline Silica Health Effects Analysis	0.09	14	0.7%
Annual Crystalline Silica Health Effects Analysis (without modeled road emissions)	0.0001	0.27	0.004%
Annual Crystalline Silica Health Effects Analysis (with modeled road emissions)	0.002	0.27	0.8%

Several of the referred issues involve the inputs that either went into Vulcan's air dispersion modeling or that were later used in Vulcan's NAAQS and ESL analysis. These issues are the following:

- Whether cumulative impacts of existing sources were properly considered (Issue C);
- Whether the air quality modeling conducted as part of this application adequately incorporated the local prevailing winds (Issue G);
- Whether emissions from on-site diesel engines are adequately calculated (Issue J);

- Whether the background concentrations used in the air dispersion modeling are representative of the proposed location of the plant (Issue L);
- Whether the permit application, and associated air dispersion modeling, included and properly evaluated all applicable emissions (Issue Q); and
- Whether site specific monitoring data should have been used in the air dispersion modeling conducted for this application (Issue R).

A. Whether Site Specific Monitoring Data Should Have Been Used in the Air Dispersion Modeling (Issue R)

TCEQ guidance requires the use of site-specific monitoring data for air dispersion modeling if that data is available.²² If site-specific ambient data is not available for use in modeling background concentrations of pollutants, the TCEQ requires the background concentration to be measured at a TCEQ ambient air monitor. Vulcan did not have site-specific ambient data for the facility to use in modeling and therefore used monitors. In conducting the air dispersion modeling, Vulcan selected a monitor at the Heritage Middle School in Bexar County for representative PM_{2.5} background concentrations and a monitor in Selma, also in Bexar County, for representative PM₁₀ background concentrations.

Although Friends Protestants argue that additional (or different) off-site monitoring should be required, they concede that site-specific monitoring data was not available for use in the modeling. Because this information was not available, the ALJs find that site-specific monitoring data was not required for the air dispersion modeling that was conducted.

B. Whether the Air Quality Modeling Adequately Incorporated the Local Prevailing Winds (Issue G)

Vulcan's permit application included air quality modeling that was based, in part, on one year (8,760 hours) of surface meteorological data that was collected at the New Braunfels

²² Ex. ED-22 (Melton direct) at 18.

Municipal Airport in 2012.²³ The modeling used pre-processed data based on TCEQ recommendations and includes county and site-specific meteorological information.²⁴ The ED reviewed the air dispersion modeling and determined the data was sufficient to capture worst-case meteorological conditions, including high and low wind speeds. OPIC agrees.

As in the previous issue, the Harrison Protestants assert that the airport data is insufficient because it is not site-specific.²⁵ They essentially argue that winds at the Plant and the airport are not the same. However, they did not present expert testimony, or other evidence, on this issue and, accordingly, did not rebut Vulcan's prima facie case.

Therefore, based on the prima facie case, the ALJs recommend finding that the air dispersion modeling that Vulcan conducted as part of the application process adequately incorporated local prevailing winds.

C. Whether the Background Concentrations Used in the Air Dispersion Modeling Are Representative of the Proposed Location of the Plant (Issue L)

A full NAAQS analysis includes an evaluation of representative background concentrations of pollutants, which are added to the modeled concentration amounts for emission sources that are not explicitly included in air dispersion modeling (such as roads).²⁶

As described above, Vulcan used two different monitors in Bexar County, not Comal County. Protestants contend the monitors Vulcan selected are not representative of conditions at the Plant site because the Plant is closer than the monitors to a cluster of rock crushers and cement plants along what they call "quarry row,"²⁷ which stretches to the west and southwest of

²³ Ex. App-DK1 (Knollhoff direct) at 24.

²⁴ Ex. ED-22 (Melton direct) at 8.

²⁵ Friends Protestants did not brief this issue.

²⁶ Ex. ED-22 (Melton direct) at 17-18.

²⁷ Ex. Friends-102.

New Braunfels.²⁸ Friends Protestants' expert Howard Gebhart testified that that these sources of PM₁₀ and PM_{2.5} are downwind of the monitors Vulcan used and that accordingly, the use of these monitors underestimates the conditions at the Plant site.²⁹

Vulcan's witness David Knollhoff testified that he selected monitors that were located in counties that had a larger population and higher total emissions of each particular pollutant than Comal County. He added that when there was more than one monitor that could work, he chose the monitor that had the highest monitored concentration for that pollutant.³⁰ This would increase the background concentration used in calculating the total maximum off-site GLC.

The ED's expert witness Rachel Melton testified that monitors are selected based on their representativeness, not their proximity to the project site. Based on her review, Ms. Melton believed that the selected monitors provided appropriate background concentrations. She testified that, in addition to a coal-fired power plant and an electric distribution plant, there are 15 permitted facilities near the PM_{2.5} monitor, but only two near the Plant site.³¹ Similarly, along with 30 other permitted facilities, a cement company is located near the PM₁₀ monitor.³² Ms. Melton testified that, based on aerial photography, open pit operations are located about 7 kilometers from the PM₁₀ monitor. She also testified that the PM₁₀ monitor is located 0.5 kilometers north of Interstate 35 and 3 kilometers northeast of North Loop 1604, which are major roads.³³ The PM_{2.5} monitor is located 6.4 kilometers east of Interstate 410 and 8.2 kilometers northeast of Interstate 37. According to Ms. Melton, both monitors would, therefore, capture more emissions associated with PM from mobile sources and roads than would be found at the project site, which is over 15 kilometers away from a major road.³⁴

²⁸ Ex. Friends-400 (Everingham direct) at 5.

²⁹ Ex. Friends-100 (Gebhart direct) at 9.

³⁰ Ex. App-DK1 (Knollhoff direct) at 29.

³¹ Ex. ED-22 (Melton direct) at 20.

³² Ex. ED-22 (Melton direct) at 20.

³³ Ex. ED-22 (Melton direct) at 7, 20.

³⁴ Ex. ED-22 (Melton direct) at 19.

The ALJs find that there is sufficient evidence in the record to establish that the background monitors that Vulcan selected are representative of the proposed Plant location.

D. Whether Emissions from On-Site Diesel Engines Were Adequately Calculated (Issue J)

In its application, Vulcan represented that three diesel engines would be used to provide power for the rock crusher. Diesel engine exhaust includes PM and NO₂, among other pollutants.³⁵ Vulcan submitted to the TCEQ emissions calculations for diesel vapors for the three diesel engines.³⁶

Friends Protestants' prefiled testimony indicated that these calculations were insufficient and that Vulcan was required to fully evaluate the emission of diesel engine exhaust as PM, but failed to do so.³⁷ Friends Protestants' testimony on this subject is, in its entirety, the following testimony from Dr. Dydeck, which only points out the lack of PM evaluation:

The Applicant evaluated the potential health and welfare impacts of the modeled emissions of carbon monoxide, nitrogen oxides, and sulfur dioxide from those engines, but not those of the other diesel engine exhaust emissions such as [PM]. This latter air contaminant does have TCEQ ESLs which are rather low. The one-hour average ESL for diesel engine exhaust (as [PM]) is 19 µg/m³ and the annual average ESL is 0.15 µg/m³. The lack of an evaluation of this air contaminant is a deficiency in the permit application.³⁸

In their closing brief, Friends Protestants go beyond this evidence, and argue that, Mr. Knollhoff should not have used diesel fuel emissions as a benchmark when he calculated the

³⁵ Ex. Friends-200 (Dydek direct) at 12.

³⁶ Ex. ED-1 at 38.

³⁷ Both Vulcan and the ED argue that Vulcan was not required to model PM from diesel exhaust. Mr. Stanford testified that he did not ask Vulcan to perform modeling for PM from diesel engine exhaust because of the size of the diesel engines; he called the largest one the size of a pickup truck engine, and said the smaller two were the power of a Smart Car engine. He testified that the three diesel engines could have been authorized without a health effects analysis. He added that, for these engines, the pollutant of most concern would be NO₂, which was modeled. Ex. ED-1 at 39.

³⁸ Ex. Friends-200 (Dydek direct) at 12.

annual emission of diesel exhaust as PM in his prefiled testimony.³⁹ In his testimony, Mr. Knollhoff calculated the the ratio of hourly GLC_{max} for diesel fuel to the hourly diesel fuel volatile organic compounds (VOC) emission limit. He then multiplied this amount by the hourly and annual PM emissions limit of diesel exhaust for the Plant.⁴⁰ Friends Protestants did not cross examine him on this calculation. Friends Protestants argue, without citing evidentiary support, that “[d]iesel fuel is not a component of the diesel engine exhaust, so it is not a proper point of comparison.”⁴¹ They then argue, again without pointing to any evidence, that “the proper analysis would look to another contaminant also being emitted from those engines.” The contaminant they select is NO_2 . They then argue, without citing any testimony, that using a different equation—one that uses NO_2 not VOC—results in an annual diesel exhaust as PM GLC_{max} of $0.27 \mu g/m^3$.

Both the ED and Vulcan point out that, even accepting the Friends’ Protestants’ equation as valid, it used an incorrect average GLC_{max} for NO_2 . The number Friends Protestants used included the background concentrations, which are not included when comparing predicted concentrations against an ESL.⁴² The actual number is significantly lower.

The ALJs conclude that Friends Protestants’ argument lacks evidentiary support. No expert provided the equation Friends Protestants used, and the ALJs are convinced by the ED’s and Vulcan’s argument that the Friends Protestants’ calculation improperly included the background concentration of NO_2 . The ALJs find Mr. Knollhoff’s testimony about his calculations to be credible, and find that Vulcan has properly calculated the diesel emissions.⁴³

E. Were all Applicable Emissions and the Cumulative Impacts of Existing Sources Properly Considered?

³⁹ Mr. Knollhoff used the emissions from diesel exhaust to calculate the GLC_{max} for diesel exhaust as PM. Ex. App-DK1 (Knollhoff direct) at 39.

⁴⁰ Ex. App-DK1 (Knollhoff direct) at 39.

⁴¹ Friends Protestants’ Closing Argument at 31.

⁴² Ex. ED-27 (Lee direct) at 7.

⁴³ Although the Friends Protestants argued the diesel emissions were adequately calculated, they did not present an argument that the diesel emissions were not adequately controlled, except as part of their calculation argument. The ALJs conclude that there was no evidence to rebut the prima facie case on this topic.

The final two issues relating to modeling both involve the extent to which the model should include emissions from existing roads and from planned quarries and roads. These two issues are whether the cumulative impacts of existing sources were properly considered and whether the application and air dispersion modeling included and properly evaluated all applicable emissions.

1. Whether Cumulative Impacts of Existing Sources Were Properly Considered (Issue C)

Friends Protestants' argument that Vulcan failed to consider the cumulative impacts of existing sources is limited to the issue of $PM_{2.5}$ and PM_{10} from quarries and roads.⁴⁴ They do not argue that the cumulative sources of other pollutants were not considered.

The air dispersion modeling included permitted emission sources within 10 kilometers of the Vulcan site. One rock crusher, the Martin Marietta Materials (Martin Marietta) crusher, is within that distance, and the maximum permitted emissions from that crusher are specifically included in Mr. Knollhoff's model. Emissions from rock crushers that are farther away are not included in the model.⁴⁵ Friends Protestants argue that sources greater than 10 kilometers away were still nearby sources that should have been considered.⁴⁶

Vulcan and the ED both argue that Mr. Knollhoff properly followed TCEQ modeling guidelines by including the list of sources the TCEQ specifically provided to him. This list only

⁴⁴ The Harrison Protestants also reargue the issues relating to the representativeness of background concentrations.

⁴⁵ Friends Protestants argue that several of the other quarries and rock crushers on "quarry row" are between 10 and 20 kilometers from the facility site. The aerial photograph of the area admitted at hearing does not clearly state distances. Ex. Friends-102. Friends Protestants attached a copy of this map as Exhibit A to their closing arguments, only this copy is "with 10 km and 20 km radii added, based on the Vulcan representation that the Martin Marietta Lower Smithson Valley Road crusher is located 9.3 km from the Vulcan rock crusher." Friends Protestants' Closing Argument at 11. This information should have been presented at hearing, not for the first time in closing. Therefore, Exhibit A will not be considered.

⁴⁶ A minor full NAAQS analysis requires an evaluation of all on-property facilities, nearby off-property facilities, and representative monitored background concentrations. Ex ED-22 (Melton direct) at 17.

included sources within 10 kilometers of the proposed facility.⁴⁷ TCEQ's Modeling Guidelines authorizes the use of such a list:

The person conducting the modeling can receive a listing of all sources and associated parameters from the Texas Commission on Environmental Quality (TCEQ) to include in the air quality analysis (AQA). The person conducting the modeling should contact the Information Resources Division (IRD) to request this listing. Refer to Appendix C for additional guidance on source retrievals. It is the responsibility of the person conducting the modeling to obtain these data and ensure their accuracy. Any changes made to the data must be documented and justified.⁴⁸

Ms. Melton testified, too, that it was appropriate for Vulcan to only explicitly include emissions from the Martin Marietta rock crusher in the model.⁴⁹

Based on the evidence, the ALJs conclude that Vulcan complied with TCEQ modeling guidance and that its air dispersion model and NAAQS analysis properly considered the cumulative impacts of existing sources.

2. Whether the Application and Air Dispersion Modeling Included and Properly Evaluated all Applicable Emissions (Issue Q)

When performing the air dispersion modeling, Vulcan (and the ED) excluded predicted emissions from the proposed quarry at the Vulcan site and from on-site roads that were not associated with the Plant. Vulcan did, however, model annual emissions of PM₁₀, PM_{2.5}, and crystalline silica from the on-site roads associated with the Plant. Both groups of Protestants object to the decision not to model the quarry and some of the roads.

⁴⁷ See Ex. App-DK-1 at 17.

⁴⁸ Ex. ED-24 at 52.

⁴⁹ Ex. ED-22 (Melton direct) at 17.

Protestants also note that although emissions from the Martin Marietta rock crusher were modeled, emissions from the quarry associated with that rock crusher were not. Friends Protestants argue that these emissions should have been included, as well.

Vulcan, OPIC, and the ED argue that because roads and quarries are expressly excluded from regulation under the TCAA, their emissions should not be modeled. As discussed above, the TCAA expressly excludes roads and quarries from the definition of “facilities.”⁵⁰ Mr. Stanford testified that if the TCEQ cannot regulate something as a facility, the ED does not include it in the air dispersion modeling.⁵¹ He added that the ED regularly and uniformly takes this approach. As additional support, Vulcan cited a TCEQ order in an application filed by EOG Resources that concluded an applicant’s modeling, which excluded roads and quarries, was accurate and appropriate.⁵² Both the ED and Vulcan note that emissions from those sources are accounted for in the modeling through the representative background monitors.

Friends Protestants’ expert Gebhart criticized this approach. He testified that excluding quarries and roads from modeling is inconsistent with other jurisdictions’ practices. He added that the non-regulation of quarries and roads “does not logically justify disregarding contaminants arising from those sources when describing air quality conditions or impacts.”⁵³

The Harrison Protestants rely on a TCEQ rule, 30 Texas Administrative Code § 101.2, to argue that all sources of contaminants on a property, including emissions from roads and quarries, must be examined. This rule, however, only addresses emission reductions when accumulation from various sources leads to a violation of the ambient air quality standards. It does not address modeling in applications; nor has there been a showing that ambient air quality

⁵⁰ Tex. Health & Safety Code § 382.003(6).

⁵¹ Ex. ED-1 (Stanford direct) at 25.

⁵² *Application by EOG Resources, Inc. for Air Quality Permit No. 95412*, TCEQ Docket No. 2012-0971-AIR; SOAH Docket No. 582-13-6347; Order at Conclusion of Law No. 30; Proposal for Decision at 21.

⁵³ Ex. Friends-100 (Gebhart direct) at 6.

standards will be violated. This rule does not require the modeling of emissions from roads and quarries.

Following the Commission order in *EOG Resources* and the ED's policy about modeling, the ALJs find that the Application and associated air dispersion modeling included and evaluated all applicable emissions.

V. ISSUES RELATED TO HUMAN HEALTH, PROPERTY, WILDLIFE, AND VEGETATION

The next category of issues relates to the effect of the proposed plant on human health, physical property, wildlife, and vegetation. The following referred issues will be discussed under this category:

- Whether emissions of silica from the proposed plant will negatively impact human health and welfare (Issue O);
- Whether the proposed plant will negatively affect human health, including sensitive subgroups, and physical property (Issue A); and
- Whether the proposed facility will adversely affect wildlife, vegetation, flora and fauna (Issue E).

A. Whether Emissions of Silica from the Proposed Plant Will Negatively Impact Human Health and Welfare (Issue O)

As part of the permitting process, an applicant must demonstrate that emissions from a proposed facility will protect human health and welfare.⁵⁴ For certain non-criteria pollutants (in other words, contaminants for which a NAAQS has not been established), the TCEQ developed

⁵⁴ 30 Tex. Admin. Code § 116.111(a)(2)(A).

ESLs.⁵⁵ Among the non-criteria pollutants for which the TCEQ developed ESLs is crystalline silica, which is carcinogenic and can cause silicosis.⁵⁶

ESLs are not emission limits, like the NAAQS are. Instead, they are screening levels.⁵⁷ If modeled concentrations are below an ESL, adverse health or welfare effects are not expected to occur.⁵⁸ And adverse health effects do not necessarily occur when a concentration exceeds an ESL, but exceeding an ESL means that further analysis is warranted.⁵⁹

According to ED witness Jong-Song Lee, the ESLs are derived to address cumulative effects and are set at levels well below the lowest observed adverse effect level.⁶⁰ Because of the TCEQ's approach to the ESLs, the crystalline silica long-term ESL of $0.27 \mu\text{g}/\text{m}^3$ could be exceeded by up to 10 times, and still be within the range the EPA has established as acceptable.⁶¹ Moreover, Mr. Lee explained that the long-term ESL was set to be protective for silicosis (the primary health concern related to crystalline silica) based on exposure 24 hours a day, 7 days a week, for 70 years.⁶² He added that the likelihood of the general public being exposed for that length of time is very low.

To analyze health and welfare effects for crystalline silica, Vulcan completed emissions modeling and predicted the hourly and annual concentrations. It then compared the GLC_{max} calculations to the ESLs and determined that the expected crystalline silica emissions were well below the relevant short-term and long-term ESLs, which means adverse health effects are not

⁵⁵ Ex. ED-13 at 0235, Modeling and Effects Review Applicability (APDG 5874); Ex. ED-27 (Lee direct) at 6.

⁵⁶ Ex. Friends-200 (Dydek direct) at 8.

⁵⁷ Ex. App-LF1 (Fraiser direct) at 25.

⁵⁸ Ex. ED-27 (Lee direct) at 6.

⁵⁹ Ex. ED-13 at 0235; Ex. ED-27 (Lee direct) at 6.

⁶⁰ Ex. ED-27 (Lee direct) at 7, 8.

⁶¹ Ex. ED-27 (Lee direct) at 9.

⁶² Ex. ED-27 (Lee direct) at 8.

expected.⁶³ In fact, each of the modeled GLC_{max} values for crystalline silica are less than 1% of the related ESL.⁶⁴ The one-hour ESL is $14 \mu\text{g}/\text{m}^3$; the modeled GLC_{max} for crystalline silica was $0.09 \mu\text{g}/\text{m}^3$. The annual ESL is $.27 \mu\text{g}/\text{m}^3$; the modeled GLC_{max} (including modeled road emissions) was $0.002 \mu\text{g}/\text{m}^3$.

Protestants raised several concerns about this analysis. In order to address those concerns, the ALJs will first discuss limestone and crystalline silica.

1. Limestone

Limestone, which will be both quarried and crushed at the Vulcan site, is typically not pure and can consist of variable amounts of silica dioxide, clay, silt, and sand.⁶⁵ The purpose of the proposed Plant is to produce construction aggregates,⁶⁶ and certain witnesses used the term “aggregate material” to refer to limestone.⁶⁷

Two different limestone formations are found in the vicinity of the proposed Vulcan site: the Edwards Formation and the Upper Glen Rose Formation. The Upper Glen Rose Formation lies underneath the Edwards Formation.⁶⁸

The limestone that comes from the two formations is different. In a report, the University of Texas at Austin’s Bureau of Economic Geology found that total silica in the Edwards Formation near the Plant ranged from 0.18% to 3.08%.⁶⁹ That report refers to the samples from the Edwards Formation as “high-purity rocks.”⁷⁰ In contrast, limestone from the Upper Glen

⁶³ Ex. App-LF1 (Fraiser direct) at 26.

⁶⁴ Ex. App-DK1 (Knollhoff direct) at 35.

⁶⁵ Ex. Friends-300 (Collins direct) at 5.

⁶⁶ Ex. App-TM1 (Mathews direct) at 12.

⁶⁷ Ex. App-TM1 (Mathews direct) at 10.

⁶⁸ Ex. Friends-300 (Collins direct) at 5-6.

⁶⁹ Ex. App-LF1 (Fraiser direct) at 23; Ex. App. 22 at APP-000250 and APP-00295, Footnotes 3 and 4.

⁷⁰ Ex. App-TM1 at 10.

Rose Formation is described in the report as “low purity rocks.”⁷¹ Vulcan’s expert Thomas Mathews stated that, for this reason, “the aggregate material in the Upper Glen Rose Formation in the area cannot be used to produce construction aggregates.”⁷² He testified that the limestone that would be quarried and crushed at Vulcan’s facility would come from the Edwards Formation.

Friends Protestants’ expert Dr. Joe Collins described the Edwards Formation as “consist[ing] of massive limestone beds with bands of chert nodules.”⁷³ ED witness Stanford testified that chert is significantly harder than limestone and that crushing softer materials results in higher emissions than crushing harder ones would.⁷⁴

2. Crystalline Silica

The health concerns discussed above arise from crystalline silica, which is only one form of silica. Silica, also called silicon dioxide, can appear in three different forms: crystalline silica, cryptocrystalline silica, and amorphous silica.⁷⁵ All three have the same chemical makeup, but crystalline silica has a different molecular structure, in which it breaks along regular planes. According to Mr. Mathews, this structure is the result of forming under high temperature and pressure. In contrast, the other two forms of silica break along uneven faces and form at lower temperatures and pressures, such as those that occur in shallow carbonate sea water. According to Mr. Mathews, these were the conditions in which the Edwards Formations formed, and therefore, silica in those formations is predominantly amorphous silica and cryptocrystalline silica. He testified that chert is predominantly an amorphous or cryptocrystalline form of silica and it “contains very little crystalline silica.”⁷⁶

⁷¹ Ex. App-TM1 at 11.

⁷² Ex. App-TM1 at 11.

⁷³ Ex. Friends-300 (Collins direct) at 6.

⁷⁴ Ex. ED-1 (Stanford direct) at 38.

⁷⁵ Ex. App -TM1 at 12-13.

⁷⁶ Ex. App -TM1 at 13.

3. Sampling Issues

Vulcan's health effects analysis was based on a composite sample of the aggregate material at the Vulcan site that, according to laboratory analysis, consisted of 0.2% crystalline silica. Vulcan pointed out at hearing that this result is consistent with the description of the Edwards Formation limestone contained in the Bureau of Economic Geology's report discussed above.⁷⁷

a. Vulcan's Sample

At hearing, Vulcan's witness Dr. Lori Eversull testified about how the sample was collected and why, in her view, it was representative of the aggregate material at the Vulcan site. She testified that under her direction, a Vulcan geologist took core hole samples from three different parts of the Vulcan Property, randomly collected subsamples from each core hole sample, and then combined those subsamples to make a composite sample from each of the three core hole samples. Those three composite samples were sent to Dr. Eversull, who randomly selected a subsample of each of the three composite samples. Those subsamples were combined to make the composite sample that was tested.⁷⁸ Dr. Eversull testified that this process was in accordance with the widely accepted processes for obtaining a representative sample.

b. Friends Protestants' Samples

Friends Protestants challenge both the representativeness of the sample and Vulcan's assertion that the Edwards formation is the only source of the material to be crushed at the plant. Through their expert witness Dr. Joe Collins, they also offered evidence of the silica content of different samples that they contend show the crystalline silica content will be significantly higher than 0.2%

⁷⁷ Ex. App-LF1 (Fraiser direct) at 23; App. Ex. 22 at APP-000250 and APP-00295, Footnotes 3 and 4.

⁷⁸ Ex. App-LE1 at 6.

Dr. Collins testified that he believed the quarry would be operating in both the Upper Glen Rose and Edwards Formations.⁷⁹ He testified that stream erosion has removed part of the Edwards Formation and exposed the underlying Upper Glen Rose formation in part of the site.⁸⁰ Therefore, he disagrees with the characterization of the aggregate material from the site being from the Edwards Formation.

Based on this assertion, Dr. Collins tested four samples of Glen Rose limestone that had been collected from an outcrop at the intersection of Beck Road and FM 1863, near the Vulcan site. He testified that four samples consisted of between 1% and 7% quartz, or crystalline silica.⁸¹ He also purchased samples from three nearby quarries—CEMEX, Hansen, and Martin Marietta—that had crystalline silica percentages ranging from 2% to 49%.⁸²

Vulcan challenges the representativeness of the samples taken at the outcrop. These samples of Glen Rose limestone were all taken at a specific point, from a single visually-distinguishable layer.⁸³ Vulcan argues that samples from a single spot cannot be representative. However, because Vulcan did not share its larger geological data, choosing instead to claim trade secret privilege, the ALJs are not inclined to permit Vulcan to challenge the method of obtaining substitute data.

Vulcan also challenges the accuracy of the testing of Friends Protestants' samples from the other quarries. For example, in Dr. Collins's report, the total silica content of the sample from Martin Marietta is 9.32%, but the crystalline silica (a subset of total silica) is 18%, a larger percentage than the total.⁸⁴ Similarly, for the CEMEX sample, the percentage of crystalline silica (49%) greatly exceeds the percentage of total silica (8.7%). Mr. Mathews testified that the

⁷⁹ Ex. Friends-300 (Collins direct) at 4.

⁸⁰ Ex. Friends-300 (Collins direct) at 11.

⁸¹ Ex. Friends-300 (Collins direct) at 7.

⁸² Ex. Friends-300 (Collins direct) at 10-11.

⁸³ Ex. Friends-300 (Collins direct) at 8.

⁸⁴ Ex. App-TM1 (Mathews direct) at 23.

variation of crystalline silica from the purchased materials “makes no sense because the weight percentages of total silica for those seven samples involve much less variation, from 8.47% to 16.01%.⁸⁵ Based on total silica content of all the samples, crystalline silica cannot exceed 16.01%, the largest amount of total silica in any of Friends Protestants’ samples.

Shortly before hearing on the merits, Friends Protestants also collected a sample of aggregate material from three segments of a 100-foot core sample that was obtained from property located next to the Plant property. According to the analysis that was conducted on the sample, the average crystalline silica content in these samples was 0.9%.⁸⁶

From the evidence, the aggregate material at Vulcan could contain more than 27% crystalline silica without causing either the hourly or annual GLC_{max} to exceed the crystalline silica ESL.⁸⁷ Thus, even using the Friends Protestants’ sample with the largest amount of total silica, there would be no expected impact to human health and welfare from crystalline silica from the Plant. Thus, the ALJs find that the expected emissions of silica from the proposed plant are well below the related ESLs, which means they are not expected to negatively impact human health and welfare.

B. Whether the Proposed Plant Will Negatively Affect Human Health, Including Sensitive Subgroups, and Physical Property (Issue A)

Friends Protestants argue that the ED’s staff improperly concluded that it did not need to perform a health effects review on the Application. An appendix to an ED guidance document called “Modeling Effects Review Applicability: How to Determine the Scope of Modeling and Effects Review for Air Permits,” [MERA Guidance] provides that “emissions of particulate matter from rock crushers . . . do not require effects review.”⁸⁸

⁸⁵ Ex. App-TM1 (Mathews direct) at 22 (citing Ex. Friends-302 at 10 (Table 1)).

⁸⁶ Tr. Vol. 2 at 308-09.

⁸⁷ Ex. App-DK1 at 36; Ex. APP-LF1 at 26.

⁸⁸ Ex. ED-13 at 21.

Friends Protestants argue that this provision in the MERA Guidance is inconsistent with the TCEQ rule that requires an application to include information demonstrating that emissions from the facility will protect the health and property of the public.⁸⁹ They argue that the MERA Guidance has never been formally approved by the TCEQ's commissioners.

The ALJs do not need to address the appropriateness of the MERA Guidance because, regardless of whether it was required, Vulcan conducted a health effects review.

Other issues raised by both sets of Protestants related to Issue A have already been addressed in the sections concerning modeling of roads and quarries, crystalline silica, and diesel emissions and will not be repeated here. The ALJs conclude that the proposed plant will not negatively affect human health, including sensitive subgroups, and physical property.

C. Whether the Proposed Facility Will Adversely Affect Wildlife, Vegetation, Flora, and Fauna (Issue E)

Friends Protestants argue that Vulcan's failure to consider the combined impacts of emissions from its quarry, its non-Plant roads, and other nearby quarries, renders its evaluation of impacts on flora and fauna deficient. The issue of Vulcan's modeling has already been addressed above and will not be repeated here.

Friends Protestants also argue that Vulcan failed to show that diesel exhaust will not exceed the ESL for PM, and therefore failed to show that diesel exhaust will not have adverse effects on vegetation. Contrary to Friends Protestants' argument, the ALJs have found that diesel emissions were adequately calculated and would not exceed ESLs.

Based on the above, the ALJs find that the proposed facility will not adversely affect wildlife, vegetation, flora, and fauna.

⁸⁹ 30 Tex. Admin. Code § 116.111(a)(2)(A)(i).

VI. CONTROL OF EMISSIONS

The following two issues relate to how the Draft Permit requires emissions from the Plant to be controlled:

- Whether the conditions in the proposed permit will adequately protect against dust emissions from the proposed plant, including during periods of high winds (Issue B); and
- Whether the controls in the proposed permit constitute Best Available Control Technology (Issue D).

A. Whether the Conditions in the Proposed Permit Will Adequately Protect Against Dust Emissions from the Proposed Plant, Including During Periods of High Winds (Issue B)

Although Protestants generally argue that Vulcan's application should be denied, on the issue of protection against dust emissions, they argue that certain changes should be made to the Draft Permit to make it more protective. In other words, they do not contend that inadequate dust control should be the basis for denial. Instead, Friends Protestants argue, if the Draft Permit is to be issued, it should be adjusted to better protect against dust emissions.

The Draft Permit includes a number of Special Conditions and terms that address dust emissions:

- Special Condition 6 provides, generally, that opacity emissions "from any transfer point on belt conveyors or from any screen shall not exceed 7 percent and from any crusher shall not exceed 12 percent for facilities . . . [and] opacity of emissions shall not exceed the indicated percent averaged over a six-minute period."⁹⁰
- Special Condition 10 requires that unpaved in-plant roads, work areas, and stockpiles be sprayed with water or an environmentally safe dust suppressant to maintain compliance with all applicable TCEQ rules and regulations. Special Condition 10 also requires Vulcan to spray all in-plant paved roads in a similar fashion or clean the roads using a dustless vacuum truck that has a removal

⁹⁰ Ex. ED-9, Special Condition 6.

efficiency of at least 90% to maintain compliance with all applicable TCEQ rules and regulations.

- The Draft Permit also requires that Vulcan protect against the creation of a nuisance.⁹¹
- Special Condition 16 requires that Vulcan “conduct a quarterly visible fugitive emissions determination” during normal plant operations for a minimum of six minutes.⁹² The special condition states that, if visible emissions leaving the property “exceed 30 cumulative seconds in any six-minute period, [Vulcan] shall take immediate action (as appropriate) to eliminate the excessive visible fugitive emissions,” and Vulcan is required to document the corrective action within 24 hours of completion.⁹³
- Special Condition 17 requires Vulcan to maintain the quarterly visible fugitive emissions records at the facility, available at the request of TCEQ personnel. Special Condition 17 also requires that Vulcan maintain processed material summaries, road cleaning and maintenance records, and abatement-equipment maintenance records.
- The Draft Permit also details PM₁₀ and PM_{2.5} emissions limits, limits visible emissions, prohibits fugitive visible emissions from leaving the property, limits throughput rates, requires use of water sprays or dust suppressant application, requires a minimum 2,119 foot set-back from the property line, and requires monitoring and immediate corrective action if visible emissions leave the property.⁹⁴

Friends Protestants contend that Special Conditions 10, 16, and 17 should be revised to be more protective. Friends Protestants first argue that Special Condition 16 should require daily opacity monitoring, instead of quarterly. Friends Protestants’ expert Gebhart testified that the quarterly monitoring contained in Draft Permit Special Condition 16 gives no assurance of permit compliance for the 89 days in a quarter in which there is no monitoring.⁹⁵ He added that

⁹¹ ED Ex. 1 at 16, 25; *see also* 30 Tex. Admin. Code § 101.4, 116.115(b)(2)(H)(i).

⁹² ED Ex. 9, Special Condition 16.

⁹³ ED Ex. 9, Special Condition 16.

⁹⁴ ED Ex. 9, Special Conditions 1 (emissions limits), 4B and 6 (visible emissions), 5 (visible emissions), 7 (throughput), 9 (water sprays), 10 (dust suppressant), 14.E (setback from property line), 16 (monitoring and corrective action); *see also* Maximum Allowable Emission Rate Table at 0194, Special Condition 14.E.1.

⁹⁵ Ex. Friends-100 (Gebhart direct) at 25.

many industrial clients outside of Texas are required to conduct daily surveys of visible emissions within and leaving their property.⁹⁶

Friends Protestants next argue that the Draft Permit should require additional silica testing to ensure that the Plant's raw material is consistent with the representations within the Application. They cite the testimony of their expert Dr. Thomas Dydek, who stated that he believed the Draft Permit should require additional testing.⁹⁷ Friends Protestants then specify, without citing any evidence, that the Draft Permit should require daily testing of material prior to or at the drop to the hopper for the crusher, and that Vulcan should be required to show a rolling 12-month average of not more than 0.2 percent crystalline silica, by weight.⁹⁸

Friends Protestants' limited expert testimony on these proposed changes is insufficient to rebut the presumption, based on the prima facie case, that a permit, if issued consistent with the draft permit, would protect human health and safety, the environment, and physical property. The evidence did not address the specifics of these changes, except for the single expression of Mr. Gebhart's preference.

Friends Protestants also propose several other changes that are not supported by evidence. In other words, although there is argument about them, there is no expert testimony suggesting that any of the following changes should be made:

- that the Draft Permit should require daily monitoring of the water content of the raw material that is processed at the proposed plant during the month of July;
- that Special Condition 10 needs to be changed to clarify that it applies to unpaved roads that are used to drive product to the rock crusher;
- that Special Condition 10 should require Vulcan to water unpaved roads daily (absent measureable rainfall in the preceding 36 hours) and vacuum paved roads weekly;

⁹⁶ Ex. Friends-100 (Gebhart direct) at 25.

⁹⁷ Ex. Friends-200 (Dydek direct) at 10.

⁹⁸ Friends Protestants' Closing Argument at 18.

- that the Draft Permit should specify a maximum area for stockpiles, not just a maximum height;⁹⁹
- that the Draft Permit should require Vulcan to provide documentation to the TCEQ upon being informed that a request has been made under the Public Information Act; and
- that the Draft Permit should require Vulcan to use a weight belt as a means to measure throughput.

Because there was no evidence to establish that these suggested revisions are necessary, Friends Protestants have not rebutted the presumption on these matters. The evidence does not establish that the changes Protestants seek are necessary to comply with the applicable legal standards.

B. Whether the Controls in the Proposed Permit Constitute Best Available Control Technology (BACT) (Issue D)

Before issuing a permit for a facility, the TCAA requires the Commission to find that the facility “will use at least the best available control technology [BACT], considering the technical practicability and economic reasonableness of reducing or eliminating the emissions resulting from the facility”¹⁰⁰ Under the TCAA, a project that meets the applicable requirements, among them the requirement that it present no indication that the emissions from the facility will contravene the intent of the TCAA, including protection of the public’s health and property, is entitled to an air quality permit.¹⁰¹

The TCEQ defines BACT as:

An air pollution control method for a new or modified facility that through experience and research, has proven to be operational, obtainable, and capable of reducing or eliminating emissions from the facility, and is considered technically practical and economically reasonable for the facility. The emissions reduction

⁹⁹ The Application contains a representation that the stockpile areas will not exceed five acres. This representation is enforceable. Tr. Vol. 2 at 250.

¹⁰⁰ Tex. Health & Safety Code § 382.0518(b)(1).

¹⁰¹ Tex. Health & Safety Code § 382.0518(b).

can be achieved through technology such as the use of add-on control equipment or by enforceable changes in production processes, systems, methods, or work practice.¹⁰²

As explained by the TCEQ's Air Permit Reviewer Reference Guide, the TCEQ uses a tiered approach in making its BACT analysis.¹⁰³ In the analysis for each tier, BACT is evaluated on a case-by-case basis for technical practicability and economic reasonableness. A Tier I evaluation involves a comparison of an applicant's BACT proposal to the emission reduction performance levels that have been accepted as BACT in recent permit reviews involving the same process or industry. Under Tier I, an evaluation of new technical developments may also be necessary. A Tier II evaluation involves considering controls that have been accepted as BACT in recent permits for similar air emission streams in a different process or industry if BACT requirements have not been established for a particular process or industry. A Tier III evaluation is done if the first two tiers fail to identify an emission reduction option that is technically practicable and economically feasible. Tier III involves a detailed technical and quantitative economic analysis of all emission reduction options available for the process under review.¹⁰⁴

Protestants have raised several objections to the BACT determination for the Draft Permit. These objections are that the ED did not actually conduct the required case-by-case analysis, as required; that such an analysis would have required consideration of a fabric filter baghouse for the crusher and controls for the stockpiles; and that the EPA has not approved Texas's three-tier method of implementing BACT.

1. Approval of the BACT Definition

Friends Protestants raised, for the first time in their reply brief, the argument that the EPA has not accepted Texas's three-tier approach to BACT. It is, however, undisputed that 40 Code

¹⁰² 30 Tex. Admin. Code § 116.10(1).

¹⁰³ Ex. ED-1 (Stanford direct) at 12.

¹⁰⁴ Ex. ED-1 (Stanford direct) at 12.

of Federal Regulations § 52.2270(c), which set out a list of EPA-approved regulations, includes TCEQ's BACT definition. This definition forms the basis for the three-tier approach.

Friends Protestants are technically correct that, by approving this definition, the EPA did not specifically accept the three-tier approach because Texas's BACT definition does not fully set out this approach. They argue that the "most fair reading of EPA's stance on the Texas BACT issue is that EPA does not allow the Texas definition to be used for [Prevention of Significant Deterioration (PSD)] permitting, and EPA is indifferent as to how Texas may choose to implement the Texas definition . . . for non-PSD permits."¹⁰⁵ So after first suggesting that the EPA disapproves of Texas's approach, they then argue that the EPA does not care which approach is used in a case like this one.

Regardless, the evidence is clear that the three-tier method is TCEQ's approach, that this approach has been incorporated in TCEQ guidance, and that this has been the method used in many permit applications over many years. The ALJs decline to find that TCEQ's three-tier BACT analysis method is illegitimate or should not be followed.

2. Specific Controls as BACT

The Draft Permit contains the following controls that the ED has determined meet BACT: using water sprays to achieve at least 70% reduction of PM₁₀ and PM_{2.5} emissions; ensuring that the screen, crusher, and material transfer points will be subject to the opacity limits contained in the New Source Performance Standards Subpart OOO;¹⁰⁶ and requiring Vulcan to spray stockpiles with water or an environmentally safe dust suppressant agent upon detection of visible particulate emissions.

¹⁰⁵ Friends Protestants' Reply Brief at 7. The Draft Permit in this case is not a PSD permit.

¹⁰⁶ 40 C.F.R. Part 60, Subpart OOO.

ED's witness Stanford, a work leader in the Mechanical / Coatings New Source Review Permits Section of the Air Permits Division of the TCEQ, testified that he performed the BACT review for the ED.¹⁰⁷ He testified about the first tier that "[i]f there are no new technical developments, the evaluation of BACT in this tier is relatively straightforward because technical practicability and economic reasonableness are established based on historical and current practice for the same process or industry."¹⁰⁸ He testified that no such new technical developments have arisen for the type of facility and pollutant at issue in the Draft Permit.

The TCEQ has issued a guidance document for conducting BACT analysis of rock crushing facilities.¹⁰⁹ According to Mr. Stanford, this document "lists and explains the minimum acceptable control of pollutants from various sources typically found in a rock crushing plant in order to meet BACT."¹¹⁰

Friends Protestants' expert Gebhart testified that the ED's BACT analysis was deficient because "control technology options with potentially better environmental controls were not considered as BACT."¹¹¹ He also testified that the TCEQ's three-tier BACT process is incomplete "because it places almost all of the emphasis on historical BACT determinations as setting the standard for future BACT."¹¹² He believed that a BACT analysis required consideration of the possibility of requiring Vulcan to enclose each crusher, screen, and stockpile and to route the emissions from them to a fabric filter baghouse.¹¹³ He also testified that instead of storing crushed aggregate outdoors, Vulcan could use either enclosed storage bins or partial enclosure of stockpiles.¹¹⁴

¹⁰⁷ Ex. ED-1 (Stanford direct) at 2.

¹⁰⁸ Ex. ED-1 (Stanford direct) at 12.

¹⁰⁹ Ex. ED-7.

¹¹⁰ Ex. ED- 1 (Stanford direct) at 14.

¹¹¹ Ex. Friends-100 (Gebhart direct) at 17.

¹¹² Ex. Friends-100 (Gebhart direct) at 19.

¹¹³ Ex. Friends-100 (Gebhart direct) at 20.

¹¹⁴ Ex. Friends-100 (Gebhart direct) at 21. Mr. Gebhart also argued that the ED incorrectly excluded roads from the BACT analysis. As previously discussed, the TCAA expressly excludes roads from its definition of facility, which

Mr. Stanford testified that Mr. Gebhart's testimony was inconsistent with Texas's approach to BACT. Mr. Stanford also testified that, despite reviewing a large number of permits for rock crushers, he has only seen one with a baghouse.¹¹⁵ This one baghouse was the result of a settlement.¹¹⁶ He testified that baghouses are more commonly used at crushers for lime kilns and cement kilns, which are a different industry type and involve a much larger scale of operations along with different processes. Mr. Stanford also testified that he was unaware of any aggregate plants of Vulcan's type that have enclosed stockpiles or barriers.¹¹⁷

OPIC agrees that the application meets or exceeds BACT requirements under currently applicable regulations and guidance.

The ALJs conclude that the evidence established that the Application met the BACT requirements under Texas's three-tier approach. The controls in the Draft Permit are consistent with the controls in other permits, and the fact that one plant used a fabric baghouse does not appear to be the kind of technological improvement that would cause a change in BACT analysis.

means the TCEQ lacks jurisdiction to regulate roads.

¹¹⁵ Ex. ED-1 (Stanford direct) at 17.

¹¹⁶ Ex. ED-1 (Stanford direct) at 18.

¹¹⁷ Ex. ED-1 (Stanford direct) at 18.

VII. ENFORCEABILITY, MONITORING AND RECORDKEEPING, AND OPERATING HOURS

A. Whether the Proposed Permit Conditions, Including Emissions Limitations, Are Enforceable (Issue P)

Permit conditions, including emissions limits, must be enforceable, which means compliance must be verifiable and the TCEQ and the EPA must be able to bring an enforcement action against a permittee if needed.¹¹⁸

Protestants did not specifically offer any evidence on this issue, and offered no significant briefing on it. Reading their arguments generously, it appears that they argue that although the Draft Permit contains throughput limits based on weight, it does not specify how that throughput will be measured.¹¹⁹ Friends Protestants argue that the Draft Permit should be amended to specify how throughput should be measured. Specifically, they contend the TCEQ's standard permit requires throughput to be measured through the use of a weight belt, which would ensure consistency and accuracy.

But this lack of specificity does not render the Draft Permit unenforceable. The Draft Permit imposes throughput limits, and throughput is based on the weight of the processed aggregate. Although the method of measuring the throughput could be given greater specificity, the actual limit is sufficiently specific to be enforceable. Therefore, the ALJs find that the proposed permit conditions, including emissions limitations, are enforceable.

B. Whether the Proposed Permit Contains Adequate Monitoring and Recordkeeping Requirements to Ensure Compliance with All Applicable Rules and Requirements (Issue I)

Consistent with TCEQ rules requiring air permit applicants to perform various kinds of monitoring and maintain certain records, the Draft Permit requires Vulcan to document and keep

¹¹⁸ Ex. App-GN1 (Nichols direct) at 53-54.

¹¹⁹ Tr. Vol. 2 at 246.

records of the daily, monthly, and annual amounts of materials being processed at the crushing plant.¹²⁰

Protestants contend the permit should require Vulcan to perform additional monitoring. Specifically, they argue Vulcan should be required to install one or more PM monitors at the fenceline. In support, they cite Mr. Gebhart's testimony that he recommended adding a fenceline monitoring requirement for PM_{2.5} and PM₁₀ to the permit.¹²¹ His reasoning was that "the modeling demonstration for NAAQS compliance has serious deficiencies, by omitting major sources of air emissions that are planned and needed by Vulcan to support its operation. A monitoring program would be an effective method of addressing these omissions."¹²²

In addition to the previous evidence showing the modeling was not deficient, there is evidence that fenceline monitoring would be unnecessary. For example, Mr. Stanford testified that he was unaware of any permits issued by his section that require fenceline monitoring. He added that fenceline monitors are most valuable when a pollutant is specific to a site and does not occur in nature. That is not the case with PM, which includes things like dirt and pollen. It therefore would be difficult to determine what PM picked up by a monitor was connected with the Plant. He added that rock crushers are not significant sources of emissions in general, and that the air dispersion model predicted fenceline PM concentrations below de minimis levels, meaning that the emissions from the Plant would be indistinguishable from ambient PM.¹²³

Vulcan contends the Draft Permit requirements are adequate and completely consistent with TCEQ precedent and practice. OPIC also agrees that the Draft Permit recordkeeping requirements comply with the applicable rules and states that there is insufficient evidence to show that daily monitoring is necessary.

¹²⁰ Ex. ED-1 (Stanford direct) at 26, 27; 30 Tex. Admin. Code § 116.115(b)(2)(E).

¹²¹ Ex. Friends-100 (Gebhart direct) at 24.

¹²² Ex. Friends-100 (Gebhart direct) at 24.

¹²³ Ex. ED-1 (Stanford direct) at 27.

The ALJs find that the evidence establishes that the Draft Permit contains adequate monitoring and recordkeeping requirements to ensure compliance with all applicable rules and requirements.

C. Whether the Proposed Operating Hours of the Rock Crusher Ensure that There Will Be No Adverse Impacts to Human Health, Welfare, and the Environment

The Harrison Protestants argued that “Applicant has not demonstrated that its proposed operating hours will not adversely impact human health, welfare, or the environment.”¹²⁴ They followed up by citing to several statements in testimony, but as they had combined several different topics in the same section, did not clearly distinguish which pieces of evidence supported which topic.

That said, Mr. Harrison testified about operating hours, “I believe there need to be limitations placed on the operating hours of the Plant to address concerns over noise and light pollution and their potential negative impacts.”¹²⁵ Mr. Harrison also expressed concern about the timing of blasting activity.¹²⁶ The Harrison Protestants did not present expert testimony about operating hours or about noise and light pollution.

In short, although the Harrison Protestants presented lay testimony about operating hours, which is a referred topic, they did not demonstrate that one or more provisions in the draft permit violate a specifically applicable state or federal requirement. Accordingly, they have not rebutted the presumption on the topic of operating hours.

¹²⁴ Harrison Brief at 13. Friends Protestants did not brief this issue.

¹²⁵ Harrison Ex. 1 at 7.

¹²⁶ Harrison Ex. 1 at 9.

VIII. TRANSCRIPT COSTS

Under the TCEQ's rules, the Commission may assess reporting and transcription costs to one or more of the parties participating in the proceeding. When doing so, the Commission is directed to consider the following factors:

- (A) the party who requested the transcript;
- (B) the financial ability of the party to pay the costs;
- (C) the extent to which the party participated in the hearing;
- (D) the relative benefits to the various parties of having a transcript; [and]
- . . .
- (G) any other factor which is relevant to a just and reasonable assessment of costs.¹²⁷

In addition, transcript costs cannot be assessed against the ED or OPIC because they are statutory parties who are precluded from appealing the decision of the Commission.¹²⁸

Vulcan seeks to split the transcription costs of \$6,084 with Protestants "in a fair and reasonable manner." Vulcan argues that its "financial ability to pay is not dispositive, as there is no evidence that the . . . Protestants do not have the financial wherewithal to pay their fair share."¹²⁹ Vulcan also notes that at the preliminary hearing, counsel for Friends Protestants agreed they would pay half the costs for expediting the transcript for the hearing on the merits.

Friends Protestants agree that they should pay half of the expediting costs, which is \$782.60, but argue that Vulcan should pay the remaining \$5,301.40.

Turning to the factors, the transcript was required, so neither party requested it. The Protestants are individual landowners, groups of landowners, and a school district, whereas

¹²⁷ 30 Tex. Admin. Code § 80.23(d).

¹²⁸ 30 Tex. Admin. Code § 80.23(d)(2); *see* Tex. Water Code §§ 5.228, .273, .275, .356.

¹²⁹ App. Closing Argument at 49.


Vulcan is a large corporation. Both parties fully participated in the hearing. Based on all these factors, the ALJs conclude that Protestants should pay \$782.60, and Vulcan should bear the remaining cost of the transcript, \$5,301.40.

IX. CONCLUSION

In conclusion, the ALJs find that Vulcan has meet its burden of proof on all issues presented and that the Draft Permit should be issued. The ALJs also recommend that all findings of fact proposed by the parties that are not contained in the Proposed Order be denied.

SIGNED September 3, 2019.


REBECCA S. SMITH
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS


VICTOR JOHN SIMONDS
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**AN ORDER
GRANTING THE APPLICATION BY
VULCAN CONSTRUCTION MATERIALS, LLC FOR PERMIT NO. 147392L001;
TCEQ DOCKET NO. 2018-1303-AIR;
SOAH DOCKET NO. 582-19-1955**

On _____, the Texas Commission on Environmental Quality (TCEQ or Commission) considered the application of Vulcan Construction Materials, LLC for an air quality permit for a new rock crushing plant to be located in Bulverde, Comal County, Texas. A Proposal for Decision (PFD) was issued by Victor John Simonds and Rebecca S. Smith, Administrative Law Judges (ALJs) with the State Office of Administrative Hearings, and considered by the Commission.

After considering the PFD, the Commission makes the following findings of fact and conclusions of law.

I. FINDINGS OF FACT

Background

1. On June 26, 2017, Vulcan Construction Materials, LLC (Vulcan or Applicant) filed an application for an air quality permit to authorize the construction and operation of a new rock crushing plant (Plant). The application, the Air Quality Analysis (AQA) submitted on November 7, 2017, and the revisions submitted on November 17, 2017, will be collectively referred to as the Application.
2. Vulcan proposes to construct the Plant on property whose northeast corner is the southwest corner of the intersection of Highway 46 and Farm-to-Market Road 3308, Bulverde, Comal County, Texas.
3. TCEQ's Executive Director (ED) declared the Application administratively complete on July 5, 2017.
4. The ED determined the Application was technically complete on January 19, 2018, and issued a draft permit for the Application (Draft Permit).

Notice and Jurisdiction

5. On July 28, 2017, Vulcan published a Notice of Receipt and Intent to Obtain an Air Quality Permit in Spanish in *La Prensa Comunidad del Valle*, and on July 31, 2017, published it in English in the *San Antonio Express-News*.
6. On January 12, 2018, the ED provided written notification of the Draft Permit to the state senator and state representative who represent the area where the Plant will be located.
7. On January 26, 2018, Vulcan published a Combined Notice of Public Meeting and Notice of Application and Preliminary Decision in English in the *San Antonio Express-News* and in Spanish in *La Prensa Comunidad del Valle*.
8. Vulcan posted required signs, including alternative language signs.
9. Notice of the Application was made to all persons and entities to which notification was required.
10. The TCEQ held a public meeting in New Braunfels on February 27, 2018.
11. The public comment period ended on February 27, 2018.
12. On September 6, 2018, the ED filed a Response to Public Comments and stated that no changes were made in response to public comment for the final Draft Permit.
13. On December 13, 2018, the Commission issued an interim order granting certain hearing requests, denying certain hearing requests and requests for reconsideration, and referring

the Application to the State Office of Administrative Hearings (SOAH) for a contested evidentiary hearing on the following nineteen issues:

- A. Whether the proposed plant will negatively affect human health, included sensitive subgroups, and physical property;
- B. Whether the conditions in the proposed permit will adequately protect against dust emissions from the proposed plant, including during periods of high winds;
- C. Whether cumulative impacts of existing sources were properly considered;
- D. Whether the controls in the proposed permit constitute Best Available Control Technology (BACT);
- E. Whether the proposed facility will adversely affect wildlife, vegetation, flora and fauna;
- F. Whether the proposed operating hours of the rock crusher ensure that there will be no adverse impacts to human health, welfare, and the environment;
- G. Whether the air quality modeling conducted as part of this application adequately incorporated the local prevailing winds;
- H. Whether the Applicant complied with TCEQ's public notice requirements related to sign-posting and newspaper notice;
- I. Whether the proposed permit contains adequate monitoring and recordkeeping requirements to ensure compliance with all applicable rules and requirements;
- J. Whether emissions from on-site diesel engines are adequately calculated and adequately controlled;
- K. Whether an adequate site review was conducted for this application;
- L. Whether the background concentrations used in the air dispersion modeling are representative of the proposed location of the plant;
- M. Whether emissions from maintenance, start-up, and shutdown activities are adequately addressed in the proposed permit;
- N. Whether chemical dust suppressant is safe to use as a control for emissions from the proposed plant;
- O. Whether emissions of silica from the proposed plant will negatively impact human health and welfare;
- P. Whether the proposed permit conditions, including emissions limitations, are enforceable;

- Q. Whether the permit application, and associated air dispersion modeling, included and properly evaluated all applicable emissions;
- R. Whether site specific monitoring data should have been used in the air dispersion modeling conducted for this application; and
- S. Whether the Applicant's compliance history precludes issuance of the draft permit or necessitates additional special conditions in the draft permit.

Proceedings at SOAH

- 14. On January 29, 2019, the Chief Clerk mailed the Notices of Public Hearing for the preliminary hearing to persons entitled to receive notice under TCEQ rules or who requested notice. Notice of the preliminary hearing was published February 1-2, 2019.
- 15. On February 4, 2019, the Chief Clerk filed with SOAH the Application; the Draft Permit; the preliminary decisions issued by the ED; and other supporting documentation in the administrative record of the Application, which are collectively referred to as the Prima Facie Demonstration.
- 16. On March 6, 2019, ALJ Rebecca S. Smith held a preliminary hearing at the Comal County Courthouse in New Braunfels, Texas. Jurisdiction was established, and the Administrative Record was admitted into evidence.
- 17. At the preliminary hearing, the ALJ admitted the following as parties to this proceeding: Vulcan, the ED, the Office of Public Interest Counsel (OPIC), Friends of Dry Comal Creek, Stop 3009 Vulcan Quarry, Comal Independent School District, Doug Harrison, Michael L. Maurer, Ora Lee Frisch, Nathan & Kira Olson, Jack Olivier, Jim & Joyce Doyle, Bob & Jeanne Nebergall, Bruce & Grace Murphy, John P. Mooney, Stephan & Jane Johnson, Sheryl Lynn Mays, Keith & Susan Randolph, Ted Martin, James & Linda Martin, Chris Lupo, Claire H. Loomis, James & Gladys Kuhn, Chuech Kuentz, Judy Krup, William & Linda Mohr, Lara Stonesifer, Mike Zimmerman, Michael Wilkinson, Ronald J. Walton, Michael & Terry Olson, Jack & Trudy Striegel, Peggy Pueppke, Mike Stemig, James Shipley, Gerald & Tracy Schulke, Esther Scanlon, Josh & Jakki Saul, Gaspar & Anna Rivera, Jeff Reeh, Chris M. Hoppman, Mary Ann Trujillo, Renee Wilson, Richard C. Keady, Robert Carrillo, Windell Cannon, William K. Byerley, Ron & Elaine Bigbee, Michael & Deborah Bell, Yvonne R. Arreaga, Thomas & Kathleen Chaney, Mark & Betty Abolafia-Rosenzweig, Lorraine DelaRiva, Pamela Seay, Craig Johnson, Kenneth & Diane Higby, Milann & Pru Guckian, Liz James, Becky Cox, Ruby Hartmann, Katheryn Acklen, Stephen & Mary Lee Freeman, Richard & Sally Harvey, Alan M. Hammack, Kleo Halm, David & Debbie Granato, Carol Glover, Robert & Maureen Cartledge, Karl & Linda Fuchs, Brigitte & Gail Dean Deyle, David N. Fletcher, Jana Fichtner, Kyra Faught, Deborah Farrar, Larry Ewald, Don & Linda Everingham, Stephanie Elizondo, James K. & Michele Drake, Joyleen Dodson, Charles Gerdes, Greater Edwards Aquifer Alliance, Donna H. Gibson Dell, Trustee of the Robert P. and

Shirley D. Gibson Living Trust, Smithson Valley Heritage Oaks Property Owners Association, and Zuercher-Froboese Family Ranch. Doug Harrison, Ron & Elaine Bigby, Mike & Terry Olson, Jeffrey Reeh, and Comal Independent School District were aligned and will be referred to as Harrison Protestants. The remaining protesting individuals and groups were aligned with Friends of Dry Comal Creek and Stop 3009 Vulcan Quarry. They will be collectively referred to as Friends Protestants.

18. ALJs Rebecca S. Smith and Victor John Simonds conducted a prehearing conference on June 6, 2019. All parties participated in the prehearing conference through their designated representatives.
19. The hearing on the merits was held from June 10-11, 2019 before ALJs Smith and Simonds at the SOAH offices, William P. Clements State Office Building, 300 West 15th Street, Fourth Floor, Austin, Texas. The hearing record closed on July 10, 2019, after replies to written closing arguments were filed.

The Application

20. The Application includes a complete Form PI-1 General Application signed by Vulcan's authorized representative.
21. The Applications were administratively and technically complete and included all necessary supporting information and appropriate TCEQ forms.

Issue A: Whether the proposed plant will negatively affect human health, including sensitive subgroups, and physical property

22. The maximum offsite concentrations from AQA are all below applicable National Ambient Air Quality Standards (NAAQS) and Commission Effects Screening Levels (ESLs).
23. Vulcan's AQA demonstrates that the maximum allowable emissions from the Plant will not negatively affect human health or welfare, including sensitive subgroups, or physical property.

Issue B: Whether the conditions in the proposed permit will adequately protect against dust emissions from the proposed plant, including during periods of high winds

24. The conditions in the Draft Permit will adequately protect against dust emissions from the Plant, including during periods of high winds.

Issue C: Whether cumulative impacts of existing sources were properly considered

25. Each of Vulcan's full Minor NAAQS analyses analyzed any cumulative impacts of the emissions from nearby emissions sources by inputting the emissions from the Martin Marietta Materials rock crusher into the modeling, and other off-site emissions sources by adding a representative background concentration of the criteria pollutant to its modeled maximum off-site ground level concentration (GLC_{max}).
26. Vulcan's AQA properly considered any cumulative impacts of emissions from nearby operations, plus other offsite emissions sources.

Issue D: Whether the controls in the proposed permit constitute Best Available Control Technology (BACT)

27. The BACT evaluations for the Plant were conducted using Tier I of the Commission's three-tiered BACT process.
28. In Tier I, controls accepted as BACT in recent permit reviews for the same type of facility are BACT if no new technical developments have occurred that would justify additional controls as economically or technically reasonable.
29. No new technical development has occurred that shows a new emissions control is technically practical and economically reasonable for any of the facilities that comprise the Plant.
30. The emissions controls required by the Draft Permit meet BACT.
31. A BACT review is not required for emissions from quarrying operations and roads.

Issue E: Whether the proposed facility will adversely affect wildlife, vegetation, flora, and fauna

32. Based on Findings of Fact Nos. 22 and 23, the maximum allowable emissions from the Plant will not adversely affect wildlife, vegetation, flora and fauna, or contravene the intent of the Texas Clean Air Act.

Issue F: Whether the proposed operating hours of the rock crusher ensure that there will be no adverse impacts to human health, welfare, and the environment

33. Based on Findings of Fact Nos. 22 and 23, the proposed operating hours of the Plant ensure there will be no adverse impacts to human health, welfare, and the environment.

Issue G: Whether the air quality modeling conducted as part of this application adequately incorporated the local prevailing winds

34. Vulcan's AQA modeling adequately incorporated local prevailing winds.

Issue H: Whether the Applicant complied with TCEQ's public notice requirements related to sign-posting and newspaper notice

35. Based on Findings of Fact Nos. 5 through 9, Vulcan complied with the Commission's public notice requirements related to sign-posting and newspaper notice.

Issue I: Whether the proposed permit contains adequate monitoring and recordkeeping requirements to ensure compliance with all applicable rules and requirements

36. The Draft Permit's monitoring and recordkeeping requirements are adequate to ensure compliance with the permit conditions and all applicable rules.
37. Ambient fenceline monitoring is not required or necessary.

Issue J: Whether emissions from on-site diesel engines are adequately calculated and adequately controlled

38. Emissions from on-site diesel engines were adequately calculated and will be adequately controlled to meet BACT.

Issue K: Whether an adequate site review was conducted for this application

39. The ED conducted an adequate site review for the Application.

Issue L: Whether the background concentrations used in the air dispersion modeling are representative of the proposed location of the plant

40. Vulcan identified ambient air monitors in counties with higher total emissions and higher populations than Comal County, and for each pollutant for which more than one monitor was identified, Vulcan chose as the background concentration the highest concentration from any of those monitors.
41. The background concentrations used in Vulcan's AQA are conservatively representative of ambient concentrations of pollutants at the Plant location.

Issue M: Whether emissions from maintenance, start-up, and shutdown activities are adequately addressed in the proposed permit

42. Based on the prima facie demonstration, the Draft Permit adequately addresses emissions from maintenance, start-up, and shutdown activities.

Issue N: Whether chemical dust suppressant is safe to use as a control for emissions from the proposed plant

43. Based on the prima facie demonstration, the chemical dust suppressant used to control emissions from the Plant will be safe.

Issue O: Whether emissions of silica from the proposed plant will negatively impact human health and welfare

44. The maximum offsite concentrations of crystalline silica from Vulcan's modeling are well below the crystalline silica Effects Screening Level.
45. The Plant's crystalline silica emissions will not negatively impact human health and welfare, or contravene the intent of the Texas Clean Air Act (TCAA).
46. The Plant's crystalline silica emissions would not negatively impact human health and welfare, or contravene the intent of the TCAA, even if the crystalline silica percentage used to calculate the Plant's crystalline silica emissions was 135 times higher.

Issue P: Whether the proposed permit conditions, including emissions limitations, are enforceable

47. The Draft Permit conditions, including emission limitations, are enforceable.

Issue Q: Whether the permit application, and associated air dispersion modeling, included and properly evaluated all applicable emissions

48. The Application properly identified all sources of air emissions that are subject to permitting under the TCAA and Commission rules and the types of emissions associated with the Plant.
49. Vulcan's AQA and modeling properly evaluated the identified emissions sources and types of emissions associated with the Plant.

Issue R: Whether site specific monitoring data should have been used in the air dispersion modeling conducted for this application

50. The use of site-specific monitoring data was not required in Vulcan's AQA because no site-specific ambient air monitoring data was available.

Issue S: Whether the Applicant's compliance history precludes issuance of the draft permit or necessitates additional special conditions in the draft permit

51. Based on the prima facie demonstration, Vulcan's compliance history does not preclude issuance of the Draft Permit or necessitate any additional or revised conditions in the Draft Permit.

Transcript Costs

52. The total cost for recording and transcribing the preliminary hearing, prehearing conference, and the hearing on the merits was \$6,084.00.
53. The transcript was required by SOAH's rules, with neither party requesting it.

54. Vulcan, Protestants, the ED, and OPIC all participated in the contested case hearing and benefitted from having a transcript for use in preparing written closing arguments and responses.
55. Transcript costs cannot be assessed against the ED and OPIC because they are statutory parties who are precluded from appealing the decision of the Commission.
56. Vulcan and Protestants were each represented by private attorneys in connection with the contested case hearing.
57. Vulcan and Protestants participated fully in the hearing.
58. Vulcan and Protestants presented testimony and exhibits.
59. Vulcan will benefit from the issuance of the permit and its resources are greater than Protestants.
60. Protestants agreed to pay 50% of the surcharge for an expedited transcript of the hearing on the merits. This amount is \$782.60.
61. Protestants should pay \$782.60 of the transcript costs, and Vulcan should pay the remaining \$5,301.40.

II. CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the emission of air contaminants and the authority to issue a permit under Texas Health and Safety Code §§ 382.011 and .0518 and Texas Water Code § 5.013.
2. The Application was referred to SOAH under Texas Water Code § 5.556.
3. SOAH has jurisdiction to conduct a hearing and to prepare a PFD in contested cases referred by the Commission under Texas Government Code § 2003.047.
4. Notice was provided in accordance with Texas Water Code § 5.5553; Texas Health and Safety Code §§ 382.0516, .0517, and .056; Texas Government Code §§ 2001.051 and .052; and 30 Texas Administrative Code chapter 39.
5. Vulcan properly submitted the Application pursuant to Texas Health and Safety Code §§ 382.0515 and .0518, and 30 Texas Administrative Code §§ 116.110, .111, and .140.
6. The Application is subject to the requirements of Texas Government Code § 2003.047(i-1)-(i-3).

7. The filing of the Application, the Draft Permit, the preliminary decisions issued by the ED, and other supporting documentation in the administrative record of the Application established a prima facie case that: (i) the Draft Permit meets all state and federal legal and technical requirements; and (ii) the permit, if issued consistent with the Draft Permit, would protect human health and safety, the environment, and physical property. Tex. Gov't Code § 2003.047(i-1).
8. A party may rebut the prima facie demonstration by presenting evidence that: (1) relates to an issue directly referred; and (2) demonstrates that one or more provisions in the Draft Permit violates a specifically applicable state or federal requirement. Tex. Gov't Code § 2003.047(i-2); 30 Tex. Admin. Code §§ 80.17(c)(2), .117(c)(3).
9. Applicant retains the burden of proof on the issues regarding the sufficiency of the Application and compliance with the necessary statutory and regulatory requirements. 30 Tex. Admin. Code § 80.17(a).
10. The Commission is to issue a permit for a facility that may emit air contaminants upon finding that: (1) the proposed facility will use at least BACT, considering the technical practicability and economic reasonableness of reducing or eliminating the emissions resulting from the facility; and (2) there is no indication that the emissions from the facility will contravene the intent of the TCAA, including protection of the public's health and physical property. Tex. Health & Safety Code § 382.0518(b).
11. Consistent with Texas Health and Safety Code § 382.0518 and 30 Texas Administrative Code § 116.111(a)(2)(C), the Plant will use BACT, with consideration given to the technical practicability and economic reasonableness of reducing or eliminating emissions from the facilities.
12. Consistent with Texas Health and Safety Code § 382.0518 and 30 Texas Administrative Code § 116.111(a)(2)(A), there is no indication that emissions from the Plant will contravene the intent of the TCAA, including the protection of the public's health and physical property.
13. The special conditions in the Draft Permit are appropriately imposed under 30 Texas Administrative Code § 116.115(c)(1) and are consistent with the TCAA.
14. Vulcan has made all demonstrations required under applicable statutes and regulations, including 30 Texas Administrative Code § 116.111 regarding air permit applications, to be issued an air quality permit with conditions as set out in the Draft Permit.
15. In accordance with Texas Health and Safety Code § 382.0518(b), the Application for Air Quality Permit No. 147392L001 should be granted, under the terms contained in the Draft Permit.
16. No transcript costs may be assessed against the ED or OPIC because the TCEQ's rules prohibit the assessment of any cost to a statutory party who is precluded by law from appealing any ruling, decision, or other act of the Commission. 30 Tex. Admin. Code § 80.23(d)(2).

17. Factors to be considered in assessing transcript costs include: the party who requested the transcript; the financial ability of the party to pay the costs; the extent to which the party participated in the hearing; the relative benefits to the various parties of having a transcript; and any other factor which is relevant to a just and reasonable assessment of the costs. 30 Tex. Admin. Code § 80.23(d)(1).
18. Considering the factors in 30 Texas Administrative Code § 80.23(d)(1), a reasonable assessment of hearing transcript costs against parties to the contested case proceeding is that Protestants should pay \$782.60 of the transcript costs, and Vulcan should pay the remaining \$5,301.40.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, IN ACCORDANCE WITH THESE FINDINGS OF FACT AND CONCLUSIONS OF LAW, THAT:

1. The application by Vulcan for Air Quality Permit No. 147392L001 is approved and the attached permit is issued.
2. Protestants shall pay \$782.60 of the transcription cost, and Vulcan shall pay the remaining \$5,301.40.
3. The Commission adopts the Executive Director's Response to Public Comment in accordance with 30 Texas Administrative Code § 50.117. If there is any conflict between the Commission's Order and the Executive Director's Responses to Public Comments, the Commission's Order prevails.
4. All other motions, requests for entry of specific Findings of Fact or Conclusions of Law, and any other requests for general or specific relief, if not expressly granted herein, are hereby denied.
5. The effective date of this Order is the date the Order is final, as provided by Texas Government Code § 2001.144 and 30 Texas Administrative Code § 80.273.
6. TCEQ's Chief Clerk shall forward a copy of this Order to all parties.
7. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any provision shall not affect the validity of the remaining portions of this Order.

ISSUED:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Jon Niermann, Chairman For the Commission