STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD

IN THE MATTER OF THE PETITION FOR HEARING ON AIR QUALITY PERMIT NO. 9295, ROPER CONSTRUCTION INC.'S ALTO CONCRETE BATCH PLANT,

No. EIB 22-34

Roper Construction Inc.,
Petitioner.

HEARING OFFICER'S REPORT

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INTRODUCTION

This matter is before the Environmental Improvement Board ("EIB" or "Board") pursuant to Roper Construction Inc.'s ("Roper Construction", "Roper" or "Applicant") Petition for Hearing Before the Board filed July 22, 2022 ("Petition"). Roper Construction challenges the New Mexico Environment Department's ("NMED" or "Department") Final Order denying Air Quality Permit No. 9295 to construct a concrete batch plant in Alto, New Mexico ("Facility"). Administrative Record ("AR") No. 176, Bates No. 3512-3517.[1]

BACKGROUND

A. GENERAL SUMMARY OF THE APPLICATION

Roper Construction applied for an air quality New Source Review ("NSR") Minor Source Permit on June 14, 2021 ("Application"). AR No. 3, Bates No. 0199. The Application was received by NMED on June 22, 2021 and ruled administratively complete on July 22, 2021. *Id.* The Application seeks authorization to construct and operate the proposed Facility near Ruidoso in Lincoln County, New Mexico. AR No. 1, Bates No. 0001; AR No. 2, Bates No. 0191.

The Application states that the proposed Facility would consist of: (1) an aggregate feed hopper (Unit 2); (2) an aggregate feed hopper conveyor (Unit 3); (3) a 4-bin aggregate bin (Unit 4); (4) an aggregate weigh batcher with conveyor (Units 5 and 6); (5) a cement/fly ash batcher; aggregate and sand storage piles (Unit 11); and (6) 3 heaters at 0.19 mmBtu/hr each (Units 12, 13, and 14). AR No. 2, Bates No. 0191. The proposed Facility would be located near New Mexico Highway 220. AR No. 1, Bates No. 0002, 0004. The Application states that the Facility will meet all applicable state and federal regulations and requirements, and if operated at maximum capacity

[1] Copies of pleadings and other documents filed in this proceeding and cited in this Report can be found on the "Docketed Matters" page on the Department's website in the Environmental Improvement Board dropdown tab for this proceeding.

and as proposed, will not cause or contribute to an exceedance of applicable ambient air quality standards or PSD increments. AR No. 1, Bates No. 0001-00190.

B. NMED REVIEW OF THE APPLICATION AND PUBLIC HEARING ON THE DRAFT PERMIT

The NMED Air Quality Bureau ("Bureau" or "AQB") issued a draft permit ("Draft Permit"), approving the Application with conditions. AR No. 9, Bates No. 0358-0395. The Secretary of the Department ("Secretary") determined that significant public interest exists in the Draft Permit and entered a Public Hearing Determination on November 8, 2021 requiring a public hearing on the Draft Permit. The Department's administrative and technical review of the Application and the Draft Permit are described in the NMED Hearing Officer's Report found at AR No. 153, Bates No. 2959-3014 and AR No. 166, Bates No. 3298-3353.

On February 9, 2022, NMED held a public hearing on the Bureau's recommended approval of the Application, with conditions, and its Draft Permit ("NMED Hearing"). AR No. 12, Bates No. 2175-2176. During the NMED Hearing, both Roper Construction and the Bureau testified that the Application demonstrated compliance with all the applicable requirements, including the National Ambient Air Quality Standards ("NAAQS") the New Mexico Ambient Air Quality Standards "NMAAQS"), Prevention of Significant Deterioration ("PSD") increments, and other air quality control regulations and that the Draft Permit, with conditions, should be approved. AR No. 181, Bates No. 3654-3978. Evidence submitted during the NMED Hearing by Roper Construction and the Bureau concluded that the ambient air quality modeling submitted with the Application was complete and accurate, and established that even if the proposed Facility operated at maximum capacity and worst-case meteorological conditions, the resulting ambient air concentrations of contaminants would not exceed NAAQS, NMAAQS, and PSD increments. *Id.* Opponents of the Application, including Ranches of Sonterra Property Owners Association and

Donnie R. and Kathleen Weems ("Sonterra"), as well as members of the general public most of whom were nearby residents, submitted evidence disputing that the Application was complete and accurate and challenging the conclusion that the Application complied with applicable air quality regulations *Id.* The NMED Hearing Officer recommended that the Deputy Secretary deny the permit.[2] AR No. 166, Bates No. 3298-3353. The Deputy Secretary issued a Final Order denying the permit on the basis of "overwhelming opposition" from nearby residents who submitted written comments and verbal non-technical testimony that the NMED Hearing Officer deemed "credible and relevant [and] was given evidentiary weight" to resolve issues that had not been addressed by Roper Construction's testimony. AR No. 176, Bates No. 3512-3517. The Deputy Secretary held that under New Mexico law and the applicable regulations, Roper Construction's burden of persuasion as the Applicant in this matter "never shifts from one party to another" and that Roper Construction "failed to meet its burden of persuasion that the permit should be issued and not denied." *Id.*

C. EIB REVIEW OF AND PUBLIC HEARING ON THE PETITION

The Petition seeks the EIB's rejection of the Department's denial of the proposed Permit. Roper Construction asserts that the EIB should reverse the Department's Final Order on the following grounds: (1) the Department misapplied the applicable burden of proof standard; (2) the Department gave improper weight to public testimony, including public testimony on technical issues, to support the denial; (3) the Department relied on irrelevant testimony concerning Roper Construction's operations of a separate facility; (4) the Department relied on irrelevant testimony concerning water availability and quantity issues; (5) the Department improperly relied on Sonterra's technical testimony questioning Roper Construction's emission modeling inputs; and (6) the

[2] The Secretary delegated the decision on Roper Construction's application to Deputy Secretary. *Delegation of Decision-Making Authority* (February 8, 2022).

Department applied requirements based on a new interpretation of the applicable regulations without prior notice to NMED and Roper and opportunity for NMED and Roper to respond, in violation of the fair notice doctrine and due process. Petition at 3 to 13.

The Department filed an Answer to Roper Construction's Petition on August 22, 2022. In its Answer, the Department asserted that: (1) the Department agrees that the air quality permit application "complied with all applicable state and federal requirements for approval."; (2) Sonterra was required to "affirmatively demonstrate that the Permit would violate state and/or federal regulations, or that using different inputs in the modeling would result in an exceedance of the state or federal air quality standards."; (3) parties are not required to object to lay person testimony given as public comment in order to prevent the Hearing Officer from giving such testimony the weight of expert technical testimony; (4) lay testimony is not competent as technical or scientific evidence and cannot overcome reliable expert testimony and evidence; (5) the Department does not require an applicant to submit evidence concerning a separate facility's operations; (6) the Department does not have authority, jurisdiction, or expertise to evaluate or regulate water availability or water storage; (7) Roper Construction used the appropriate AP-42 emission factor - paved roads with less than 500 trips per day rather than uncontrolled industrial roads - in its modeling of fugitive dust emissions at the proposed Facility; and (8) upholding denial of the Permit will result in the retroactive application of new regulatory policies. NMED Answer to Appeal Petition at 1 to 3.

Alto Coalition for Environmental Preservation ("Alto CEP")[3] also filed an Answer to Roper Construction's Petition on August 22, 2022 supporting the Deputy Secretary's denial of the Application. Alto CEP's Answer responds to each of the assertions made by Roper Construction in the Petition and opposes the Petition. Answer of Alto CEP at 2 to 9.

[3] Alto CEP filed an Entry of Appearance in this appeal proceeding on August 22, 2022, stating it is the successor to Sonterra.

On August 15, 2022, the EIB issued an Order appointing the Hearing Officer and setting a public hearing for October 18 through October 20, 2022 ("EIB Hearing"). Public Notice of the EIB Hearing was published in the *Albuquerque Journal* September 10, 2022 and in the *Ruidoso News* on September 14, 2022. On September 9, 2022, the EIB Hearing Officer issued a Procedural and Scheduling Order. Pursuant to the Procedural and Scheduling Order, Roper Construction, NMED, and Alto CEP each filed Statements of Intent to present direct technical testimony on September 21, 2022, and Statements of Intent to present rebuttal technical testimony on October 11, 2022.

NMED and Alto CEP filed several pre-hearing motions. The motions not effecting the ultimate disposition of the Application were denied by the EIB Hearing Officer prior to commencement of the EIB Hearing. See dropdown tab for this proceeding on the Docketed Matters page on the NMED website and the EIB Hearing transcript (all references to the EIB Hearing transcript are abbreviated as "Tr." and refer to the October 18-20 EIB Hearing, unless otherwise stated).

On October 10, 2022, Alto CEP filed a motion to dismiss Roper Construction's Petition for lack of required public notice and a motion to dismiss, or to preclude introduction of evidence concerning Roper Construction's revised permit. The EIB Hearing Officer determined that the Alto CEP's motions seeking dismissal of the permit must be decided by the Board pursuant to 20.1.2.109(B)(2)(b) NMAC. The Board scheduled a special meeting to hear arguments on Alto CEP's motions for 9:30 a.m. on October 18, 2022.

During the special Board meeting, the Board heard oral arguments on Alto CEP's Provisional Motion to Dismiss for lack of required public notice, Tr. 28:14-38:3, and Alto CEP's Motion to Dismiss Roper Construction's petition, or in the alternative, to preclude evidence that

was not presented at the NMED proceeding. Tr. 78:22-86:14. The Board denied Alto CEP's Motion to Dismiss for lack of required notice on the ground that the motion was untimely filed. Tr. 74:20-75:9.

With respect to the Motion to Dismiss or preclude new evidence, Roper Construction and NMED argued that Roper Construction's revised permit application is the same as the original, but has sought to reduce operations in response to public concern lodged at the NMED proceeding. Tr. 86:18–89:11; 89:15–92:25. The Board deliberated and Board members raised concerns over the revised permit application and whether Alto CEP had sufficient time to vet the revisions. Tr. 95:13–104:21. Roper Construction responded to the Board's concerns by stating that it was willing to withdraw its revised permit application, and if the Board reverses the denial and issues the permit, Roper Construction will seek to decrease its operations through an allowable administrative revision process. Tr. 104:23–106:24. The parties agreed to enter into a stipulation that each party would withdraw exhibits and testimony related to Roper Construction's revised application and proceed only on the original permit application. Tr. 107:6–165:21. The Board denied Alto CEP's Motion to Dismiss or preclude new evidence and directed the EIB Hearing Officer to make evidentiary rulings consistent with the stipulation. Tr. 169:17–172:17.

The parties filed the Stipulation and Agreement on October 19, 2022 in which they agreed to withdraw exhibits and testimony as agreed at the October 18 special EIB meeting and subsequently filed withdrawals and revisions to testimony and exhibits to reflect the Stipulation Agreement. The revised testimony and exhibits were filed in the proceeding, were posted to the docket on October 28, 2022 and are available on the NMED website in the EIB Docketed Matters under the dropdown tab for this case.

The EIB Hearing on the Petition to the Board commenced in the afternoon of October 18, 2022 and continued through October 20, 2022. Members of the Board were present throughout the EIB Hearing, although a quorum was not present at all times.

THE PARTIES AND THEIR REPRESENTATIVES

The Department was represented at the EIB Hearing by Christopher J. Vigil, Assistant General Counsel and Lara Katz, Assistant General Counsel. The Department called the following witnesses: Rhonda Romero, Minor Source Section Manager for the AQB; Eric Peters, Air Dispersion Modeler for the AQB; and Kathleen Primm, Supervisor in the Minor Source Unit of the Permitting Section of the AQB.

Roper Construction was represented by Louis W. Rose, Montgomery and Andrews, P.A. and called Mr. Paul Wade, Principal/Senior Project Manager of Montrose Air Quality Services, Inc., and Mr. Ryan Roper, President of Roper Construction.

Alto CEP was represented by Thomas M. Hnasko and Julie A. Sakura, Hinkle Shanor, LLP, and called the following witnesses: Carlos Ituarte-Villarreal, Ph.D., Environmental Specialist employed by SWCA Environmental Consultants; Breanna Bernal, Air Quality Specialist employed by SWCA Environmental Consultants; Mr. Brad Sohm, P.E., employed by SWCA Environmental Consultants; and Mr. Eluid L. Martinez of Water Resources Management Consultants, LLC.

APPLICABLE LAW

A. REVIEW AND APPEAL PROVISIONS

Review of the Application is governed by the New Mexico Air Quality Control Act, NMSA 1978, §§ 74-2-1 through 74-2-17 ("State Act"), Air Quality Control Regulations, 20.2.72 NMAC ("State Regulations"), and the Department's permit procedures, 20.1.4 NMAC. Under the State

Act and State Regulations, a construction permit is required prior to the start of construction of the proposed Facility. NMSA 1978, § 74-2-7(A)(1) and 20.2.72.200 NMAC. Pursuant to the State Act, the Department is required to "grant the permit, grant the permit subject to conditions, or deny the permit." 20.72.207(D) NMAC.

The Petition was filed pursuant to NMSA 1978, § 74-2-7(H) of the State Act. That section provides that any person adversely affected by a permitting action of the Department may petition for a hearing before the Board. 20.2.72.207(F) NMAC of the State Regulations provides that any person who participated in a permitting action by the Department may appeal the Department's decision to the Board and requires that a petition of appeal of a permitting decision to the Board shall "specify the portion of the permitting action to which the petitioners object". Board procedures governing the Petition are set out in the Board adjudicatory procedures rules found at 20.1.2 NMAC ("Board Adjudicatory Rules").

Subsection (K) of NMSA 1978, § 74-2-7 provides that the burden of proof shall be upon the Petitioner at the appeal hearing. The Board's Adjudicatory Rules supplement the statutory burden of proof standard and provide that:

> "the petitioner has the burden of going forward with the evidence and of proving by a preponderance of the evidence the facts relied upon to justify the relief sought in the petition. Following the establishment of a prima facie case by the petitioner, any person opposed to the relief sought in the petition has the burden of going forward with any adverse evidence and showing why the relief should not be granted." 20.1.2.302 NMAC.

Black's Law Dictionary provides definitions of the standards of proof set out in 20.1.2.302 NMAC.

"Preponderance of Evidence" is defined as "evidence which as a whole shows the fact sought to be proved is more probable than not" or "evidence which is more credible as convincing

to the mind". "Prima Facie" evidence is defined by Black's Law Dictionary (11th ed. 2019) as "Evidence that will establish or sustain a judgement unless contradictory evidence is produced."

Subsection (K) of NMSA 1978, § 74-2-7 further provides that the Board may sustain, modify or reverse the action of the Department based upon the evidence presented at the appeal hearing.

B. NMED'S STANDARD FOR DECISION ON PERMIT ISSUANCE

NMSA 1978, § 74-2-7(C) and 20.2.72.208 NMAC set out the standards under which an application for a construction permit may be denied by the Department. NMSA 1978, § 74-2-7(C) provides that the Department may deny any application for: "(1) a construction permit if it appears that the construction or modification: (a) will not meet applicable standards, rules or requirements of the Air Quality Control Act or the federal act; (b) will cause or contribute to air contaminant levels in excess of a national or state standard or …; or (c) will violate any other provision of the Air Quality Control Act or the federal [Clean Air] act."

20.2.72.208 NMAC sets out essentially the same standards for denial of a permit application by the Department and adds that the standards for denial of a proposed air quality permit apply if the standards are not met, "considering emissions after controls".

C. THE EIB'S STANDARD OF REVIEW AND DECISION ON ROPER'S APPEAL FROM THE DEPARTMENT'S PERMITTING ACTION

The Board's review of the Petition is governed by certain provisions of the State Act, including, NMSA 1978, § 74-2-7(I)-(K) (2013), the State Regulations, and the Board's Adjudicatory Rules. Regarding the evidentiary record to be considered by the Board, 20.1.2.7(K)(2) NMAC of the Board's Adjudicatory Rules provides that the Administrative Record of the NMED (including the record of the NMED Hearing) is part of the Record Proper of an appeal. 20.1.2.206 NMAC provides that additional evidence may be presented at the EIB hearing

on an appeal petition, and 20.1.2.300 et seq. NMAC establishes a hearing process similar to that applicable to the NMED hearing. Consequently, in an appeal from an NMED decision, the Board's review of the NMED permitting action appealed from includes review of the evidence submitted at both the hearing before NMED and the hearing before the Board. Significantly, the Board's review of the NMED decision is not limited by the statutory provision governing judicial review upon appeal of a Board decision by a court, which are set out in NMSA 1978, § 74-2-9(C), and cited in paragraph D below. Moreover, the EIB Hearing Officer has found no requirement that the Board give deference to the decision made by the Department. See e.g., NMSA 1978, § 74-1-6(I) (the Department may participate in proceedings before the Board on the same basis as any other person, but shall not be given special status over any other party). New Mexico case law characterizes the type of review required to be conducted by the Board as a *de novo* review. See *Acosta v. City of Santa Fe*, 2000-NMCA-092, ¶ 16, 129 N.M. 632. *Clayton v. Farmington City Council*, 1995-NMCA-079 ¶¶ 15-16, 120 N.M. 448 discusses examples of *de novo* review in various contexts and describes *de novo* review to include authority to consider "additional evidentiary presentation beyond the record created in front of [NMED]" and to allow the reviewing authority "more discretion in its judgment than simply reversal of the agency's decision and remand for further proceedings."

D. JUDICIAL REVIEW STANDARDS APPLICABLE TO THE BOARD'S DECISION

As discussed in paragraph C above, the State Act imposes legal standards on the Board applicable to its air quality permitting actions. NMSA 1978, § 74-2-9(C) authorizes a reviewing appellate court to set aside action of the Board, only if found by the court, after the court's review of the record before the Board, to be: (1) arbitrary and capricious or an abuse of discretion; (2) not supported by substantial evidence in the record; or (3) otherwise not in accordance with law.

E. SUMMARY OF REVIEW STANDARDS APPLICABLE TO THE BOARD

The standards applicable to judicial review by a court of the Board's decision are more limited than the standard applicable to the Board's review of the Department's decision. Under the Board's Adjudicatory Rules, the Board's review of the Department's decision is functionally *de novo*, meaning additional evidence can be submitted to the Board at the Board hearing and the Board is not required to defer to NMED in its decision making, but in making its decision the Board is limited by the standard that an appellate court would apply in reviewing the Board's decisions set out in NMSA 1978, § 74-2-9(C). The standards applicable to a court reviewing the Board's decision are narrower than the standards applicable to the Board in reviewing NMED decisions.

ISSUES ADDRESSED IN THE HEARING OFFICER'S REPORT

A. OVERVIEW

The Closing Arguments and Proposed Finding of Fact and Conclusions of Law of the parties include argument and discussion of issues addressed in the NMED Hearing that either were not raised by any party in this proceeding or addressed only generally. Those issues are not addressed in this Report. This Report addresses issues raised by the parties in the EIB Hearing that the EIB Hearing Officer determined to be relevant and material to the Board's decision. Issues raised at both the NMED Hearing and the EIB Hearing determined to be relevant and material to the EIB Hearing are included.

The Order Appointing Hearing Officer did not direct the Hearing Officer to prepare proposed Findings of Fact and Conclusions of Law. Accordingly, Attachment 1 to this Report includes Recommended Findings of Fact and Conclusions of Law on uncontested procedural matters only. The Report contains comments of the Hearing Officer concerning the material controverted issues.

B. ROPER CONSTRUCTION'S PRIMA FACIE CASE IN SUPPORT OF THE PETITION

Roper Construction presented two technical witnesses at the EIB Hearing: Paul Wade of Montrose Environmental, and Ryan Roper, President of Roper Construction. Mr. Wade testified on the permit application and the information submitted to NMED in support of the Application. Mr. Roper testified on water availability, facility layout and Roper's Carrizozo facility.

Mr. Wade adopted his written direct and rebuttal testimony, as well as his oral testimony submitted during the NMED proceeding. RC Exhibit 32, RC 00406 (Revised Wade Direct Testimony). Mr. Wade testified that he worked closely with the AQB staff to determine the appropriate modeling inputs for the proposed Facility and that the air quality dispersion modeling conformed to all applicable state and federal requirements, as well as NMED guidance, and showed that the proposed Facility, when operated at the theoretical maximum rate, would not violate any applicable state or federal regulations, or result in any exceedances of the applicable NAAQS, NMAAQS, or PSD increments. RC Exhibit 32, RC 00408-00409 (Revised Wade Direct Testimony).

Mr. Wade addressed meteorological data use in the air emission modeling. He testified that use of the meteorological data inputs from Holloman Air Force Base in the model was directed by the AQB; and Holloman Air Force Base it was the only site in the area that met EPA requirements for 90% data capture for five years. Mr. Wade testified, in response to citizen non-technical testimony at the NMED proceeding, that temperature inversions and topography are addressed in the meteorological data, and were, therefore, included in the modeling done for the proposed Facility. RC Exhibit 32, RC 00410 (Revised Wade Direct Testimony); Tr. 267:12–269:24, 271:21–272:19.

In response to concerns raised by Sonterra and citizens during the NMED proceeding that Sierra Blanca Airport meteorological data should have been used in the model, Mr. Wade testified that the Sierra Blanca meteorological data did not meet federally required minimum data capture requirements from 2016-2019 and that using the same model with Sierra Blanca meteorological data from 2017 and 2020 resulted in lower concentrations of air pollutants due to the more frequent higher wind speed days. RC Exhibit 32, RC-00412-00417 (Revised Wade Direct Testimony); Tr. 270:1–271:19.

Mr. Wade also addressed the haul road emissions factor used in the modeling. He testified that use of the haul road emissions factor of 0.6 g/m2 (applicable to paved roads) was appropriate for the proposed Facility, conformed with NMED guidance, and has been accepted by NMED for similar facilities. RC Exhibit 32, RC-00417 (Revised Wade Direct Testimony). Mr. Wade disagreed with Alto CEP's assertion that the correct silt loading emissions factor is 12 g/m2 (applicable to cement batch plant haul roads). He testified that the 12 g/m2 factor is not representative of the characteristics of the proposed Facility's haul roads because the emission factor is based data from haul roads that were uncontrolled; whereas, the proposed Facility will have maintained haul roads that significantly decrease emissions. Tr. 275:6–276:19.

Mr. Wade also addressed water availability. He testified that in his experience of over 25 years, an air quality permit applicant has never needed to show water availability as a condition of permit approval, even where the application of additional moisture is a permit condition. RC Exhibit 32, RC-00421 (Revised Wade Rebuttal Testimony); Tr. 285:9-13.

In response to Alto CEP's criticism of Roper Construction's omission of water storage tanks from modeling, Mr. Wade testified that the proposed water storage tanks to be located at the proposed Facility were not included in the Application because they are not sources of emissions.

Tr. 272:21–273:16. Mr. Wade further testified that water storage tanks and aggregate bins were properly evaluated and omitted from modeling as downwash structures. He stated that under the applicable modeling guidance, structures that are further than 5L (height of the structure times 5) from point sources are not affected by downwash and do not need to be included in modeling. Tr. 293:3-10. He further testified that the aggregate bins were greater than 5L from the point sources, and, thus, were properly excluded from the model as downwash structures. *Id.* Mr. Wade further testified that the water storage tanks will be located more than 70 feet from any emissions source, and therefore, are properly excluded from the modeling as downwash structures. Tr. 294:4-6; Tr. 332:5–333:5.

In response to Alto CEP's testimony that the model is inaccurate because it omitted water trucks traveling on the haul roads, Mr. Wade testified that the lower the truck weight on haul roads, the lower the emissions produced from them, i.e., because the model was based on a maximum of 305 trucks all weighing between 25 to 26.5 tons and because water trucks only weigh around 23.3 tons, having included them in the modeling would only have reduced emissions. Tr. 339:4-12; Tr. 276:20–277:1.

In response to Alto CEP's testimony that the model is inaccurate because it failed to include emissions based on the use of a wet dust suppression system, Mr. Wade testified that: (1) his modeling assumed that the fugitive particulate sources were uncontrolled, and therefore, including the additional moisture to the aggregate storage piles required by Permit Condition A.502 in the event of visible emissions would only reduce the projected emissions; and (2) NMED has never required water quantity or use in a permit application, including concrete batch plant applications, or the specifications of a wet dust suppression system. RC Exhibit 34, RC-00430-00442 (Revised Wade Rebuttal Testimony); Tr. 277:6–279:15.

Further on cross examination, Mr. Wade testified that a wet dust suppression system is not specifically required by the Draft Permit. The Draft Permit requires that the proposed Facility implement a wet dust suppression at Units 3 through 6 or add moisture directly to the aggregate piles in the event of observed visible emissions. Tr. 283:16-21.

On cross examination, Mr. Wade testified that modeling was performed assuming that all aggregate would be placed in the northern bins in order to create the highest potential emission scenario where the model predicted the highest concentrations, at the northern boundary of the property. Tr. 334:10-14. The aggregate that will be stored eastern and western bins was not excluded, rather, instead of reducing the ambient concentrations by spreading aggregate in all three bins, all aggregate was concentrated into the northern bins. Tr. 334:17–335:15.

Roper Construction's other technical witness, Ryan Roper, is the President of Roper Construction, Inc. RC Exhibit 33, RC-00425-00429 (Revised Roper Direct Testimony). At the EIB Hearing, Mr. Roper adopted his written direct and rebuttal testimony. Tr. 342:20–343:15.

Mr. Roper testified that the proposed Facility will have two water storage tanks, in which water purchased from nearby municipalities and other private sources will be stored for use at the Facility. He testified that water will be trucked in about 4 to 5 times per week. *Id.*

In response to concerns raised by non-technical citizen testimony during the NMED proceeding about the compliance status of Roper Construction's Carrizozo facility, Mr. Roper testified that Roper Construction's Carrizozo facility is currently in compliance with its air permit. Mr. Roper also testified that the proposed Facility differs greatly from the Carrizozo facility. RC-RC Exhibit 33, 00428-00429 (Revised Roper Direct Testimony). Mr. Roper testified that the Carrizozo facility was already operating when Roper Construction purchased it, is comprised of older equipment, and is subject to the less stringent regulatory requirements, which do not require

modern dust suppression technologies or other operational requirements to control dust emissions. *Id.*

In response to Alto CEP's assertion that the site plan for the proposed Facility has been inconsistently portrayed in the administrative and judicial proceedings, Mr. Roper testified that the site plan identified during a separate state court proceeding is the same site plan Roper Construction intended to propose to the Board prior to the Stipulation. Both site plans included the same equipment and emission sources, but relocated them on the site. Mr. Roper testified that he will either correct the site plan in the state judicial case or seek to revise the permit following approval of the Application. Tr. 347:18–350:17, 357:11-23.

Mr. Roper addressed maintenance of haul roads. He testified that the haul roads at the proposed Facility will be maintained through routine cleaning and sweeping in conformance with Permit Condition A112. RC Exhibit 35, RC-00443-00450 (Revised Roper Rebuttal Testimony).

In response to the testimony by Alto CEP concerning the amount of water required to provide additional moisture to the aggregate piles, Mr. Roper testified that aggregate has a natural moisture content and that the Alto technical witnesses did not account for the natural moisture content when they calculated the amount of water needed for operation of the proposed Facility, and therefore, compliance with proposed Permit Condition A.502 requires far less water than asserted by Alto CEP. *Id.*

C. TECHNICAL TESTIMONY OF NMED AND ALTO CEP ON CONTROVERTED ISSUES

Alto CEP had the burden of presenting a preponderance of evidence in opposition to the testimony submitted by Roper in support of its prima facie case. The Bureau's testimony supported approval of the Application with conditions proposed by the Department. This section summarizes and discusses the portions of NMED and Alto CEP testimony taken primarily from their respective

Proposed Finding of Fact and Conclusions of law on the issues raised by Alto CEP in opposition to Roper's Testimony and is organized by the subject matter of the issues raised in the Alto CEP testimony.

1. AIR DISPERSION MODELING

a. Use of Meteorological Data

(1) The Bureau

With respect to meteorological data generally, the Bureau testified at the NMED Hearing:

> [t]he Facility is a minor source with respect to PSD. [The Bureau does] not require minor sources to collect their own meteorological data, so we are limited to existing sites that collect this data. Two stations are close to the facility with respect to the large size of New Mexico. These are Holloman Air Force Base and Ruidoso. Of these two stations, Holloman Air Force Base has more calm and low wind conditions as can be seen from Sonterra Exhibits 8 and 9. Since the maximum concentrations for this type of facility are expected to occur when winds are slow and steady, the evidence shows that Holloman Air Force Base would be expected to produce higher concentrations. Since the goal of modeling is to predict the highest possible concentration, the Holloman Air Force Base data is acceptable for a demonstration of compliance with air quality standards. 2-9-22 Tr. 99:19-100:9.

With respect to meteorological selection requirements, the Bureau relies on the following excerpt from witness Peter's testimony at the EIB Hearing:

> Many states do not require modeling for minor sources. Estimates I have seen or heard suggest one half to one third of states don't require minor sources to do any modeling. For example, the State of Colorado has contacted me for advice on how to implement minor source modeling because they expect to need to do this in the future. New Mexico does require modeling demonstrations for new sources that are minor with respect to PSD, such as this facility. Consider the following language from EPA's Guideline on Air Quality Models ("Guideline") [5182 Federal Register / Vol. 82, No. 10 / Tuesday, January 17, 2017 / Rules and Regulations]:
>
> *In this action, the Environmental Protection Agency (EPA) promulgates revisions to the Guideline on Air Quality Models (''Guideline''). The Guideline provides EPA's preferred models and other recommended techniques, as well as guidance for their use in estimating ambient*

concentrations of air pollutants. It is incorporated into the EPA's regulations, satisfying a requirement under the Clean Air Act (CAA) for the EPA to specify with reasonable particularity models to be used in the Prevention of Significant Deterioration (PSD) program.

A. Does this action apply to me? This action applies to federal, state, territorial, local, and tribal air quality management agencies that conduct air quality modeling as part of State Implementation Plan (SIP) submittals and revisions, New Source Review (NSR) permitting (including new or modifying industrial sources under Prevention of Significant Deterioration (PSD)), conformity, and other air quality assessments required under EPA regulation.

Examination of this language and the rest of the document reveals that the Guideline is not a regulatory requirement for minor source permitting. The Guideline can be used as "guidance" for minor source permitting but is not required. Scientific judgement and experience can be applied to modify modeling procedures recommended by the guidance. For example, if the guidance says to use five years of complete, representative, meteorological data, but that data is not available then substitutions are acceptable. The point here is that the judgement of the modeler can out-weigh the letter of the "guidance".

Holloman AFB data was selected for the modeling of this facility because it was relatively nearby the facility location and had five years of complete data. Sierra Blanca Regional Airport data had too many missing readings and a complete five years of data could not be produced. The Guideline discusses meteorological data selection on page 5223 [5223 Federal Register / Vol. 82, No. 10 / Tuesday, January 17, 2017 / Rules and Regulations]:

The model user should acquire enough meteorological data to ensure that worst-case meteorological conditions are adequately represented in the model results. The use of 5 years of adequately representative NWS or comparable meteorological data, at least 1 year of site-specific, or at least 3 years of prognostic meteorological data, are required. If 1 year or more, up to 5 years, of site-specific data are available, these data are preferred for use in air quality analyses. Depending on completeness of the data record, consecutive years of NWS, site-specific, or prognostic data are preferred. Such data must be subjected to quality assurance procedures as described in section 8.4.4.2.

The "worst-case meteorological conditions" are the conditions that produce the highest concentrations. "Adequately representative" means, in this context, that the conditions that produce the highest concentrations are included in the meteorological data. With respect to this facility, the Sierra Blanca Regional Airport data contains the worst-case meteorological

conditions, and the more distant Holloman AFB data contains conditions that are worse than worst-case. The Applicant would not be required to use Holloman AFB data because it predicts unrealistically high concentrations. A permit could not be denied on the basis of a data set that predicts unrealistically high concentrations, however, so long as the data set demonstrates compliance with air quality standards.

The Guideline contains additional guidance specific to AERMET and AERMOD on page 5232 [5232 Federal Register / Vol. 82, No. 10 / Tuesday, January 17, 2017 / Rules and Regulations]: *(i) Data used as input to AERMET should possess an adequate degree of representativeness to ensure that the wind, temperature and turbulence profiles derived by AERMOD are both laterally and vertically representative of the source impact area. The adequacy of input data should be judged independently for each variable. The values for surface roughness, Bowen ratio, and albedo should reflect the surface characteristics in the vicinity of the meteorological tower or representative grid cell when using prognostic data, and should be adequately representative of the modeling domain. Finally, the primary atmospheric input variables, including wind speed and direction, ambient temperature, cloud cover, and a morning upper air sounding, should also be adequately representative of the source area when using observed data.*

Again, the language, "adequately representative" refers to the operational definition above that both protects the public from violations of air quality standards and protects applicants from unreasonable meteorology selection requirements.

As noted in the NMED Hearing Officer's Report (item 38), [Roper's consultant] Paul Wade ran the model with the worst-case meteorology, which was from Holloman AFB. He also ran it with the best-case meteorology, which was from Sierra Blanca Regional Airport. Tr. 33:23-34:14; 49:21-50:1. Both sets of data demonstrated compliance with air quality standards and PSD increments.

In preparation for this hearing, I re-ran the PM10 modeling with Sierra Blanca Regional Airport data. I found the total concentrations from the Sierra Blanca Regional Airport data to produce concentrations about one half to two-thirds of the concentrations reported for Holloman AFB (before adding background concentrations), depending on the averaging period and air quality standard.

The application used acceptable meteorological data that adequately represented worst-case meteorological conditions. The Applicant chose to use data that predicted unrealistically high concentrations, which is an acceptable choice. The original modeling analysis justifies the issuance of the permit. In addition, the Applicant did a supplemental modeling analysis

> using the different meteorological data requested by Sonterra. That analysis alone would also justify the issuance of the permit. (More than one year of complete data was found). The combination of these analyses leaves no doubt that modeling demonstrates compliance with air quality standards and PSD increments. The facility has satisfied all modeling requirements and the Bureau's recommendation that the permit be issued may be adopted by the Board. NMED EIB Exhibit 2 at 4-8.

(2) Alto CEP

Dr. Ituarte-Villarreal testified on behalf of Alto CEP that he did not believe that the use of the Holloman Air Force meteorological data was appropriate to accurately conduct air dispersion modeling at the proposed site. Tr. 553:4-8. He stated that as depicted in Alto CEP Exhibits 10 and 11, the meteorological data from Holloman and the Sierra Blanca location are markedly different, in contrast to U.S. EPA requirements that "meteorological data uses input to a dispersion model should be selected on a basis of spatial and climatological (temporal) representativeness..." Alto CEP Exhibit 12.

Dr. Ituarte-Villarreal acknowledged that U.S. EPA requires 90% of complete data for use in air dispersion modeling and that some of the Sierra Blanca data was incomplete. However, he also noted that the NMED guidance provided a data subset for 2013 through 2017, but that Roper's consultants used the Holloman data for the years 2016 through 2020. Tr. 553:9-555:11. In addition, Dr. Ituarte-Villarreal affirmed that Roper's consultants had the ability to use other stations that he believes would be more representative of the conditions of the proposed site than the Holloman Air Force site. Tr. 555:12-556:1. Dr. Ituarte-Villarreal also testified that, if representative data could not be located, Roper's consultant could have conducted on-site monitoring and modeled meta-data sets that are specific to the site. *Id.* He stated none of those options were considered; instead, the NMED allowed the use of Holloman Air Force data that was not representative of the conditions of the site and was not even the same data set for Holloman meteorological data that is set forth in the NMED guidance documents. *Id.*

(3) Hearing Officer's Comment

Roper and NMED each testified that the meteorological data from Holloman Air Force Base represents a worst-case scenario for measuring air emissions at the proposed Facility.

Alto CEP testified that meteorological conditions at Holloman are different than the Sierra Blanca, the alternate location and at the proposed Facility. However, Alto CEP did not establish that use of data from the Sierra Blanca or the site of the proposed Facility would provide a worse case than the Holloman Air Force Base data or result in the proposed Facility contributing to or exceeding applicable air quality standards.

b. Adequacy of Haul Truck Emissions Calculations

At the NMED Hearing, Alto CEP asserted that "[t]he Maximum Haul Truck Emissions [in the Application] are not supported in the record. Section 6, p. 7 of the Application states that haul truck emissions decreased between the November 2021 and the June 2021 submittals as a result of the vehicle miles traveled being decreased by one-half. No justification for this change was presented by the [A]pplicant." Sonterra SOI at 9.

In response, the Bureau testified that:

> the maximum haul road truck emissions submitted in the original application double-counted the round trips in the material handling section of the calculation spreadsheet. This is in cell D239. This was corrected and verified in Section 7 spreadsheet that was provided by the applicant on August 10, 2021. That was the reason for the reduction in the haul truck emissions. 2-9-22 Tr. 91:22-91:3.

At the EIB Hearing, Bureau staff testified that:

> In the Draft Permit, the paved haul road emissions were limited through more than one permit condition. Conditions A112.A, A112.B and A112.C included requirements to limit the amount of haul road trips and to control particulate emissions from the haul roads. In addition, Conditions A108.A and A108.B limited the hours of operation at the facility and the facility throughput. The applicant used the most appropriate silt loading emission factor from Chapter 13, Table 13.2.1-2. The AP-42 emission factor value of

> 0.6 g/m2 is appropriate because it applies to paved roads with less than 500 trips per day. The Draft Permit limited the amount of truck traffic to 305 haul road trips per day. In addition, Draft Permit Condition A112.B required that the haul road be maintained to minimize silt buildup to reduce particulate emissions through the application of water or other control measures such as sweeping. The AP-42 silt loading emission factor from Chapter 13, Table 13.2.1-3 for concrete batching plants is not appropriate because it applies to uncontrolled paved roads. The haul road at the Alto CBP would be required to reduce particulate emissions by maintaining the paved road to reduce silt buildup, limiting truck traffic, and limiting the hours of operation and throughput at the facility. NMED EIB Exhibit 1 at 6-7.

Mr. Sohm testified on behalf of Alto CEP regarding haul road truck emissions at the EIB Hearing. According to Mr. Sohm, the modeling for the Application did not identify any water truck trips to or from the proposed Facility. Tr. 510:23. Instead, the Application accounted for aggregate, fly ash, cement and concrete trucks. Tr. 510:24-25. Although the Draft Permit limited the maximum number of trips of all trucks to 305 per day, those trips only account for the maximum allowable trips for the materials and do not include truck trips for water. Tr. 511:1-5. Consequently, if Roper were to operate at the maximum levels authorized by the proposed permit, there would be no trips available for water trucks and the primary emission control technology could not be implemented. Tr. 511:6-11. Consequently, the Application and modeling has entirely omitted water trucks as an emissions source, which necessarily have different weights and specifications impacting fugitive dust emissions than the aggregate, fly ash, cement or concrete trucks. Tr. 510:23-511:11.

Mr. Sohm also testified that, in order to support reduced emissions that would not consume the allowable NAAQS for PM10 based on a 24-hour period or the allowable PSD increment for PM10 based on a 24-hour period for Class II areas, the Application and modeling artificially reduced the haul road length for some trucks that would enter the proposed Facility. The Application stated a haul road length of 785 meters for the aggregate trucks, but only 429

meters for the fly ash, cement and concrete trucks. Tr. 511:18-21. Although the Application was amended in November of 2021 to reduce those lengths by 50%, the amended Application still maintained that the fly ash, cement, and concrete trucks only would travel one half the distance of the haul road. Tr. 511:21-24. Mr. Peters, the NMED modeling expert, testified that he did not know if the water trucks would travel the entire loop of the facility. Tr. 425:21-426:5.

Mr. Sohm testified that it is accepted industry practice to use the entire length of the haul road as a basis for emissions estimates and in the modeling. As a matter of safety, trucks must follow a one-way round-about haul road and cannot back out of the proposed Facility in an effort to reduce the length of travel. Tr. 511:15-17. Mr. Sohm further testified that requiring trucks to travel a reduced distance by employing the unsafe practice of backing out of the facility, and not traversing over the entire distance of the haul road around the facility, would not be an enforceable condition of the permit. Mr. Wade acknowledged that the only mechanism under the Draft Permit to prevent a fly ash truck from traversing across the entire loop of the proposed Facility is Mr. Roper giving directions to the drivers of such vehicles. Tr. 300:5-13.

Mr. Sohm concluded that the Application is incomplete because all emission sources have not been analyzed and the compressed haul road route for the fly ash, cement, and concrete trucks is not an acceptable practice and is unenforceable.

Alto CEP's witness Breanna Bernal testified that she:

> testified regarding the Applicant's choice to decline to employ emission control methods or technology to control emissions on haul roads as demonstrated in Section 6, p.8 of the Application. In the NMED Draft Permit, however, Condition A112, Section B, requires Roper to maintain the haul roads to minimize silt buildup to control emissions by applying water to the haul roads, sweeping the haul roads would be the only alternative to comply with the NMED-imposed condition to minimize silt buildup on the haul roads. The Applicant did not supply any evidence regarding either applying water to the haul roads or sweeping the haul roads. Accordingly, there is no evidence that the Applicant will or can,

comply with the Draft Permit Condition." Alto CEP Exhibit 16, page 3.

In response, Department technical staff testified:

> To clarify, when an applicant uses emission control methods in their emission calculations, and they certify to those emission calculations in Section 22 of the application, then the Bureau implements the requirements for controls in the draft permits and the applicant is required to comply with the requirements in the permit. NMED EIB Rebuttal Exhibit 1 at 12; NMED EIB Rebuttal Exhibit 2.

c. Air Dispersion Modeling Technical Testimony at the EIB Hearing

(1) Bureau Testimony

At the EIB Hearing, the Department's air dispersion modeler, Eric Peter's explained the Bureau's air dispersion modeling review process. He testified that:

> The Department reviewed the modeling submitted by Roper Construction, Inc. for permit 9295, which is known as "Alto Concrete Batch Plant" (the facility). The Department verified that the facility followed appropriate modeling practices, as informed by the New Mexico Modeling Guidelines. Details of the modeling are described in the Modeling Review Report, which is contained in the Administrative Record. NMED EIB Exhibit 2 at 1-2; AR No. 1, Bates Nos. 0151 to 0186; AR No. 6, Bates 242 to 249; NMED Exhibit 7, Bates Nos. 0250 to 0332.

Mr. Peters explained that:

> In order to be issued an NSR permit, the applicant must demonstrate that construction of the proposed facility will not cause or contribute to any violations of National or New Mexico Ambient Air Quality Standards, Prevention of Significant Deterioration (PSD) Increments, or State Air Toxic pollutant requirements. National Ambient Air Quality Standards are periodically reviewed by the Environmental Protection Agency and are designed to protect the most sensitive individuals. PSD increments are designed to maintain the air quality of pristine areas. Toxic permitting thresholds prevent neighbors from being exposed to more than one percent of the amount that has been deemed acceptable for workers to be exposed to throughout the day. The requirement to demonstrate compliance with these air quality measures is contained in 20.2.72.203(A)(4) NMAC. NMED EIB Exhibit 2 at 2.

Mr. Peters further testified that:

> The Department maintains the New Mexico Modeling Guidelines to

> provide a basis for acceptable modeling analyses. These guidelines incorporate and interpret the most recent version of EPA's Guideline on Air Quality Models, which was published in the Federal Register, Vol. 82, No. 10. The New Mexico Modeling Guidelines also incorporate other information and guidance, such as EPA memorandums. NMED EIB Exhibit 2 at 2.

Mr. Peters also explained the Bureaus' review of Roper's air dispersion modeling in this case. He testified that:

> Alto Concrete Batch Plant modeling was performed in accordance with the New Mexico Modeling Guidelines. If the facility operates in compliance with the terms and conditions of the draft permit, then it will not cause or contribute to any concentrations above state or federal ambient air quality standards or PSD increments. The facility has satisfied all modeling requirements and the Bureau's recommendation that the permit be issued may be adopted by the Board. NMED EIB Exhibit 2 at 2-3.

Mr. Peters also testified that he reviewed the modeling done by Alto CEP's witness, Dr. Ituarte-Villareal. Regarding his review of Alto CEP's modeling, Mr. Peters testified that:

> Modeling is complicated, and there are many places where errors could occur. Normally when I review modeling, I go through an extensive review process. In this case, neither the emissions calculations nor the total emission rate of the haul roads was provided for anyone to check to see if the calculations were correct. Modeling files were not provided for independent re-running of the models or for examining the inputs or outputs. AERMOD is the required model for this application and is supplied by EPA. For some pollutants, AERMOD can run a block of five years of meteorological data and built-in post-processing will ensure the correct design value is calculated. For PM10, each of the five years would need to be run separately to get the true high-second-high concentration for each year before those individual results are further processed with other applications, such as spreadsheets. Dr. Ituarte-Villarreal's testimony and exhibits do not discuss whether the years of data were run as a long block, which would over-estimate concentrations, or were run individually. If they were run individually, no information is provided regarding whether the results from each year were averaged. Based on the eleven unit of measure errors in his direct written testimony, it is not clear that Dr. Ituarte-Villarreal or anyone else checked his work. Neither modeling files nor sufficient descriptions of methodology were provided for verification. The evidence does not support the suggestion that the facility would cause or contribute to violations of air quality standards or PSD increments. NMED EIB Amended Rebuttal Exhibit 3 at 5-6.

(2) Alto CEP Testimony

Alto CEP presented Dr. Ituarte-Villarreal to testify about the modeling presented in the Application, the omissions in the modeling, and use of the proper silt-loading factor for haul roads at concrete batch plants, in accordance with U.S. EPA AP-42 guidance.

Dr. Ituarte-Villarreal testified that the modeling performed by Mr. Wade is unreliable because it is not representative of the conditions at the site or the proposed operation of the cement batch plant. Tr. 534:7-10. Dr. Ituarte-Villarreal reiterated Mr. Sohm's findings concerning substantial omissions in the modeling, including the omitted downwash structures, the failure to identify and account for all emission sources, the reduction of estimated concentrations by failing to model the facility's allowed operational hours, the reduction of haul road distances for certain trucks, and the use of unrepresentative metrological data. Tr. 534:7-536:13. Accordingly, Dr. Ituarte-Villarreal concluded that the proposed Facility would not comply with applicable air quality standards. Alto Exhibit 1 at 14:13-15.

To validate his conclusions, Dr. Ituarte-Villarreal testified that he did not correct any of the modeling omissions, but instead focused solely on the model's use of an improper emission factor for the haul roads. Tr. 541:10-542:14; Alto Exhibits 4 and 5. According to Dr. Ituarte-Villarreal, Roper should have used the silt-loading set forth in U.S. EPA Guidance AP-42, which is specific to concrete batch plants, instead of the emission factor applicable to public paved roads. Tr. 536:17-529:3. He testified that the use of the emission factor applicable to public paved roads resulted in the underestimation of emissions by a factor of 15, which allowed the Application to conclude that the plant would narrowly comply with the allowable PSD increment and the allowable standard for NAAQS. Dr. Ituarte-Villarreal further testified that even using the incorrect haul road emission rate for public paved roads, the plant would consume 99.3% of the allowable

PM10 PSD Class II increment and 83.1% of the allowable PM10 standard for NAAQS. Alto Exhibit 1 at 3:3-7.

Dr. Ituarte-Villarreal explained why the silt loading emission factors specific for concrete batch plants in the AP-42 represent the actual conditions of the haul roads at the proposed plant. Tr. 536:17-539. He stated that the conditions at a concrete batch plant do not represent similar conditions that exist on a public road. Tr. 539:5-17. Dr. Ituarte-Villareal explained that the emissions from haul roads at the concrete batch plant result from the operation of heavy to medium-weight vehicles, including exhaust emissions, brake wear, and tire wear, all of which cause a resuspension of loose material on the road surface. Tr. 537:1-7; Alto Exhibit 3, page 1; AR No. 128, Bates No. 2288. The AP-42 methodology analyzed the emissions caused by the resuspension of this loose material on road surface specific to concrete batch plants. *Id.* Dr. Ituarte-Villarreal stated that heavy vehicular traffic on concrete batch plant roads depletes the loose material from the surface and that, in turn, the loose surface material is constantly being replenished by traffic from other heavy vehicles. Tr. 537:8-16. Thus, one of the primary differences between the emissions resulting from a public highway and an industrial road at a concrete batch plant facility is that the surface loading is constantly replenished on the haul road by vehicles traversing from material handling areas or operating in other areas of the facility. *Id.* This process is termed the "silt loading" present on the road surface. Tr. 537:25-538:2.

Dr. Ituarte-Villarreal testified that the silt loading factor for a concrete batch plant set forth in AP-42 for haul roads within a concrete batching plant facility has been determined based on random truck traffic between 62 and 160 trips per day which, in Dr. Ituarte-Villarreal's view, was "very representative" of the current Application, which proposes a maximum of 305 trips per day. Tr. 557:6-12. The silt loading factor as set forth in AP-42 is based on vehicle speeds averaging 15

miles per hour, which is also representative of the conditions that would occur at the proposed batch plant. Tr. 557:13-17. Finally, the silt loading factor is derived from 100% of medium-weighed vehicles, or 8-ton vehicles, which is also representative of the trucks to be used at the proposed site. Tr. 557:18-23. Based on the totality of these characteristics, Dr. Ituarte-Villarreal emphasized that the silt loading factor for haul roads within concrete batch plants, as set forth in AP-42, is representative of conditions of the site and should have been used for the air dispersion modeling. Tr. 556:12-19.

Dr. Ituarte-Villarreal then explained the basis for the silt loading factor for concrete batch plants set forth in Table 13.2.1-3 of AP-42 and why the conclusions accepted by the U.S. EPA AP-42 are extremely reliable for the concrete batch plant proposed by Roper. Tr. 558:11-17; Alto Exhibit 3. Dr. Ituarte-Villarreal explained that the silt loading factor set forth in AP-42 for concrete batch plants is A-rated, which means that the U.S. EPA considers it reliable and representative based on many randomly chosen facilities in an industrial population. Tr. 556:12-557:6. Dr. Ituarte-Villarreal further explained that the AP-42 silt loading factor is sufficiently specific so that the variability within that source category population, i.e., similar concrete batch plants, is minimized and that multiple tests have performed using the same methodology so that the silt loading factor has accepted validation under U.S. EPA protocol. *Id.*

Dr. Ituarte-Villarreal testified that, in contrast, the silt loading factor used by Roper's consultant for the air dispersion modeling, is a silt loading factor specific to public paved roads, not for industrial roads in a concrete batch plant facility. Tr. 538:12-15. The silt loading factor takes into account several factors, including the mean speed of vehicles, the average daily traffic, the number of lanes, and the fraction of heavy vehicles traveling on the road. Tr. 538:19-539:3. According to Dr. Ituarte-Villarreal, these factors are markedly different for public paved roads

when compared to a concrete batch plant. Tr. 539:5-11. He testified that, the silt loading factor for public paved roads, which is limited as a collection of data for freeways, collector lanes, and public street, has additional entirely different characteristics than haul roads at a concrete batch facility. Tr. 539:12-17. Dr. Ituarte-Villarreal stated that speed limits on freeways are significantly in excess of 15 miles per hour and there are very few construction vehicles or medium-weighted vehicles. Tr. 557:13-17. He further stated that the vehicles using freeways and other public roads are mainly light vehicles, which are not representative of the silt loading events that occur at a concrete batch facility. Tr. 557:18-558:5.

Dr. Ituarte-Villarreal also emphasized that no expert from the NMED or Roper discussed the methodology that the U.S. EPA used to determine silt loading factors for paved public roads. Tr. 558:18-559:1. According to Dr. Ituarte-Villarreal, the silt loading factor for public paved roads is merely a consolidation of the emissions where silt loading is collected from a national emissions inventory retained by U.S. EPA and other federal agencies, and that it includes roadway classifications such as freeways and local streets. The inventory does not include any data from industrial roads. Tr. 539:12-17.

Dr. Ituarte-Villarreal also testified regarding NMED's justification for using emission factors for public paved roads, based on NMED's past acceptance of the silt loading factor for public paved roads where a proposed facility will have 500 or fewer vehicle trips per day. Tr. 557:24-558:10. Dr. Ituarte-Villarreal concluded that the number of trips has no relevance to silt loading at a concrete batch facility. Alto Exhibit 1 at 8:4-7. The number of trips would only be relevant when determining the ultimate emissions, based on using the appropriate silt loading factor. *Id.*

Dr. Ituarte-Villarreal then testified that he ran the model used by Mr. Wade, but used the

silt loading factor specific to concrete batch facilities, as set forth in Table 13.2.1-3 of AP-42, as opposed to the silt loading factor applicable to public paved roads. Tr. 541:8-14; Alto E. 3. Dr. Ituarte-Villareal's testified that his model run did not change any other data input, including the reduced truck routes used by Mr. Wade, the lack of modeling of any water truck trips, or the deletion of bins and other downwash structures. Tr. 541:15-542:16.

For quality control, Dr. Ituarte-Villarreal first ran the model using the silt loading factor for paved public roads, which is the same data point used by Mr. Wade. That model run produced similar results to those obtained by Mr. Wade, and showed marginal compliance with the 24-hour PM10 NAAQS and for the PSD Class II increments for 24-hour PM10. Tr. 542:17-543:20. Dr. Ituarte-Villarreal testified that although the maximum concentration located on the north side of the proposed Facility was estimated to be 28.27 ug/m3, it was extremely close to the threshold values allowed for the PM10 24-hour PSD Class II increment of 30 ug/m3. Tr. 543:21-544:3., Alto Exhibits 4 and 5. He concluded that using Mr. Wade's silt loading factor for public paved roads, emissions at the northern boundary of the facility were extremely close to a violation of applicable air quality standards. Tr. 545:11-19; Alto Exhibit 6.

Dr. Ituarte-Villarreal testified that, using the silt loading factor set forth in AP-42 for industrial roads within a concrete batching facility, which U.S. EPA guidance states is 12 grams per meter squared, the model otherwise used by Roper produced markedly different results. Tr. 544:17-545:18; Alto Exhibit 6. As set forth in Alto CEP Exhibit 8, using the correct silt loading factor resulted in a cumulative concentration of PM10 for 24-hour NAAQS of 172.3 ug/m3, which exceeds the maximum allowable standard of 150 ug/m3 by 14.9%. Alto Exhibit 8. He testified that the findings with respect to PM10 based on the 24-hour Class II PSD increment standard of 30 ug/m3 were even more significant. Alto Exhibit 9. Use of the AP-42 silt loading factor for

concrete batch plants resulted in a cumulative concentration of 77.6 ug/m3, which equals 258.7% of the allowable standard. Tr. 545:19-551:23. Alto Exhibits 7 and 9. Dr. Ituarte-Villarreal concluded that the proposed Facility will not meet applicable NAAQS and PSD increment standards for PM10. Tr. 551:14-23.

Dr. Ituarte-Villarreal also testified that modeled emissions are at the highest level near the southern boundary of the proposed Facility, when using what he believes is the correct silt loading factor under AP-42, and not at the northern boundary of the facility as Mr. Wade predicted when using what he believes is the incorrect silt loading factor for paved public roads. Tr. 545:3-18. According to Dr. Ituarte-Villareal, this result is due to the fact that in the original modeling, when using the wrong emission factor, the haul road has less contribution to the maximum concentrations. *Id.* In contrast, when the modeler uses the correct emission factor, the haul roads become the culpable source for the maximum concentrations. *Id.*

Dr. Ituarte-Villarreal also testified that, while use of the AP-42 silt loading factor is appropriate in this instance based on the operating characteristics of the proposed Facility, the NMED has also published guidance for emissions from paved roads. Tr. 546:6-24. That guidance, according to Dr. Ituarte-Villarreal, does not use a silt loading value but rather uses a silt percent, which is the proportion of silt-sized particles to the loose surface dust. *Id.* Dr. Ituarte-Villarreal testified that it is possible to input that value into the model to represent emissions from paved roads, without using the public paved road silt loading factor derived from a multitude of areas throughout the country that bear no resemblance to a concrete batch facility. Tr. 547:3-12. Dr. Ituarte-Villarreal ran the model using the NMED default value to calculate emissions, and then applied a control percentage of 95%, which assumes that the road is paved and would be continually swept. *Id.* The result is a conservative estimate of emissions at the proposed Facility,

which would not be as accurate as using the silt loading factor for concrete batch plants set forth in AP-42, but would be preferable to using the paved public road silt loading factor. Assuming a 95% control of emissions, Dr. Ituarte-Villarreal concluded that the model run using the NMED guidance still resulted in an exceedance of PM10 for a 24-hour PSD Class II increment, with a cumulative concentration of 30.3 ug/m3, or 101% of the allowable standard. Tr. 547:13-24; Alto Exhibit 9.

d. Bureau Responses to Alto CEP Testimony

In response Dr. Ituarte-Villareal's testimony, Department technical staff testified that:

> Silt loading is defined in AP-42 Chapter 13.2.1 for Paved Roads as the mass of silt sized material (equal to or less than 75 micrometers [μm] in physical diameter) per unit area of travel surface in grams per square meter (g/m2). Dr. Ituarte-Villareal frequently references the unit of measure for the silt loading emission factor in his oral testimony as micrograms per square meter (ug/m2), but the unit of measure is grams per square meter (g/m2) in AP-42 Chapter 13.2.1. NMED EIB Amended Rebuttal Exhibit 1 at 3; NMED EIB Rebuttal Exhibit 5 at 2.

In response to Alto CEP's testimony that AP-42 has a specific emissions factor for concrete batch plants that Roper did not use, Department technical staff testified that:

> AP-42 Chapter 13.2.1 does contain a specific silt loading emission factor for concrete batch plants, but the emission factor is based on three (3) tests on uncontrolled haul roads. The proposed haul road at the proposed . . . Alto Concrete Batch Plant (CBP) is currently unpaved but will be paved and silt build up will be minimized by either sweeping or watering to control particulate matter diameters of 10 μm or smaller (PM 10) and particulate matter diameters of 2.5 μm or smaller (PM2.5). NMED EIB Amended Rebuttal Exhibit 1 at 3; NMED EIB Rebuttal Exhibit 7, page 35.

In further response to Alto CEP's testimony that the concrete batch plant emission factor should have been used, Department technical staff testified:

> [The Department's permit writer] Dr. Deepika Saikrishnan evaluated every calculation and input (including emission factors) for appropriateness in the air quality permit application for the RCI-Alto CBP and she discussed the use of this specific emission factor with her managers . . . there were multiple

> reasons the Bureau accepted the silt loading emission factor for the haul road emission calculations in the original application that was submitted by RCI. The question related to the silt loading factor was brought up by Mr. Hnasko to Mr. Eric Peters in the initial 2-9-2022 hearing. Eric Peters was not the appropriate witness to be questioned on the emission calculations. He is an air dispersion modeler. The permit specialist has the responsibility of vetting the emission calculations. Mr. Peters appropriately excused himself from responding to the question about the silt loading emission factor. Mr. Peters responded to the question bringing awareness that he was not the appropriate witness to answer the question and pointed out that the permit writer was the appropriate witness to respond to that question. The question was never re-routed to the appropriate witness. NMED EIB Amended Rebuttal Exhibit 1 at 4; NMED EIB Exhibit 1, pages 6-7; 2-9-22 1 Tr. 170: 17-25, 171: 1-25, 172: 1-25, and 173:1-25.

In response to Dr. Ituarte-Villareal's testimony that the number of haul trips is not material to the selection of the correct emission factor, Department technical staff testified that:

> AP-42 Chapter 13.2.1, Table 13.2.1-2 assigns categories for average daily traffic (ADT). [Roper's] consultant initially used the ADT category of less than 500 trucks with an associated ubiquitous baseline silt loading emission factor of 0.6 g/m2. This is not the only reason the Bureau accepted the emission factor. In the draft permit version 2021-12-30 the paved haul road emissions were limited through more than one permit condition. Conditions A112.A, A112.B and A112.C included requirements to limit the amount of haul road trips and to control particulate emissions from the haul roads. In addition, Conditions A108.A and A108.B limited the hours of operation at the facility and the facility throughput. The applicant used the most appropriate silt loading emission factor from Chapter 13, Table 13.2.1-2. In addition, the AP-42 emission factor value of 0.6 g/m2 is appropriate because it applies to paved roads with less than 500 trips per day. Table 13.2.1-2 considers an average daily traffic (ADT) characterization within it and the category that the Alto CBP haul road was appropriately pulled into was the <500 ADT per day. The draft permit version 2021-12-30 limited the amount of truck traffic to 305 haul road trips per day. In addition, more specifically, draft permit Condition A112.B required that the haul road be maintained to minimize silt buildup to reduce particulate emissions through the application of water or other control measures such as sweeping. The AP-42 silt loading emission factor from Chapter 13, Table 13.2.1-3 for concrete batching plants is not appropriate because it applies to uncontrolled paved roads. The proposed haul road at the Alto CBP would be required to reduce particulate emissions by maintaining the paved road to reduce silt buildup, limiting truck traffic, and limiting the hours of operation and throughput at the facility. NMED EIB Amended Rebuttal Exhibit 1 at 5; NMED EIB Exhibit 11.

In response to Dr. Ituarte-Villareal's testimony that NMED without justification apparently did not use its own guidance when reviewing this Application, but allowed Roper to use an emission rate applicable to paved public roads of 0.6 µg/m2, Alto CEP Exhibit 1, page 9, Department technical staff testified:

> The guidance titled "Department Accepted Values for: Aggregate Handling, Storage Pile, and Haul Road Emissions" posted January 1, 2017, was written specifically for applicants utilizing the Unpaved Roads Chapter 13.2.2 of AP-42 to calculate emissions. RCI utilized the Paved Road AP-42 Chapter 13.2.1 to calculate haul road emissions. The guidance for Chapter 13.2.2 of AP-42 is not pertinent. To clarify, application of the guidance is not a requirement. The applicant may choose to rely on data that is more representative of facility operations. The applicant may decide to rely on AP-42, test results, or other calculation methodologies pre-approved by the Bureau. NMED EIB Amended Rebuttal Exhibit 1 at 6-7; NMED EIB Rebuttal Exhibits 5 and 9.

and:

> As mentioned previously, the Bureau determined that the silt loading emission factor of 12 g/m2 in Table 13.2.1-3 was not appropriate because the proposed haul road will be controlled, and this emission factor did not take into consideration control measures applied to haul roads. AP-42, Chapter 13.2.1 specifically addresses that controls on paved haul roads will affect the silt loading and suggest that controlled emission factors may be obtained by substituting controlled silt loading values in the equation. Also mentioned previously, the Department guidance was not relied upon because the guidance does not apply to emission calculations prepared from AP-42 Chapter 13.2.1. NMED EIB Amended Rebuttal Exhibit 1 at 7; NMED EIB Rebuttal Exhibit 5, pg. 11.

e. Hearing Officer's Comment

The Alto CEP testimony asserts that major omissions and discrepancies exist in the calculation of haul road truck emissions applied to the air dispersion modeling making the Application incomplete. Roper and NMED argue that haul road truck emissions were addressed through permit conditions, including limiting hours of operation, daily truck trips and control measures. The record does not appear to establish that the permit conditions are sufficient to meet

the applicable air quality standards, if the omissions and discrepancies in the calculation of haul road truck emissions alleged by Alto CEP are found to be credible by the Board.

The evidence shows conflicting technical opinions concerning which AP-42 emission factor is more representative of operations at the proposed Facility. At the EIB hearing, the Applicant and NMED each presented the respective methodology and opinions presented at the NMED hearing. Alto CEP presented more comprehensive detailed evidence supporting its position than it presented at the NMED Hearing. NMED and the Applicant provided responses and reiterated their respective conclusions that the Application should be approved. NMED provided specific responses to Alto CEP's evidence at the Board hearing. The central issue appears to be whether the use of AP-42 emissions factor for paved roads used by Roper and approved by NMED is more reflective of actual conditions at the site of the proposed Facility than the AP-42 emission factor for cement batch plant haul roads. Alto CEP's evidence showed a major difference in modeling results when the latter factor is applied to the modeling done by Roper. NMED's modeling witness testified that he could not verify the methodology and accuracy of the modeling results obtained by Alto CEP's witness when the cement batch plant haul road emissions factor was substituted for the paved roads emissions factor. Nonetheless, the record does not show any defects in the methodology and accuracy of Dr. Ituarte-Villareal's modeling results.

2. WATER QUANTITY AND WATER RIGHTS

Alto CEP asserts the Application does not contain any quantification of the amount of water necessary and available to Roper to achieve the emission reductions proposed by Roper and accepted by the NMED. Alto CEP further asserts that there is no indication in the Application, or in the testimony from the Applicant, whether sufficient water is available to meet the applicable air quality standards.

a. Applicant Testimony and Argument

Mr. Wade testified that Roper proposes to add moisture to aggregate piles and/or a wet dust suppression system installed at the feeder hopper loan conveyor or control fugitive particulate emissions. Roper Construction Exhibit 2, at 5. He also testified that haul roads around the proposed Facility would be paved and maintained to reduce emissions. *Id.* Mr. Roper testified that community water directors have told him that they have water available for his plant. Tr. 344:21-345:5. Alto CEP asserts that no other evidence, including an identification of the "community water directors" and a quantification of the amount of water that Roper will need to produce concrete and achieve the emission controls represented in the Application, was presented concerning water availability.

Both Roper and the Department have maintained throughout both the NMED and EIB proceedings that the Department has no authority to regulate quantities of water, sources of water, or supplies of water. See the Department's Motion in *Limine* and Roper's Response in Support of the New Mexico Environment Department's Motion in *Limine*.

b. NMED General Testimony on Water Availability

At the EIB Hearing, the Department testified concerning use of water as a control measure:

> The applicant opted to control emissions from material handling using water and thus used controlled emission factors from AP-42 in calculations. In addition, prior to submittal of the air quality permit application the applicant had the application notarized and certified that the information and data submitted in the application are as true and accurate as possible. Based on the emission factors used to calculate emissions, the AQB included draft permit conditions requiring the use of the control measures represented in the application in order to make the use of the controlled emission factors enforceable. NMED EIB Exhibit 1 at 7.

In both this proceeding and the NMED proceeding, the NMED presented Kathleen Primm as a rebuttal witness on water issues. AR No. 181, Bates No. 3789 at 18-21. Ms. Primm testified

that there is nothing in the Air Quality Control Act or the construction permit regulations mandating that the Bureau require an applicant to establish an available water source for the purpose of complying with enforceable restrictions in a proposed air quality permit. AR No. 181, Bates No. 3803 at 10-17. Ms. Primm noted that the Bureau does have regulatory authority to enforce any failure to apply water as represented in the Application and as required by the air quality permit. AR No. 181, Bates No. 3805 at 8-11.

NMED's position regarding its authority over water quality appears to inconsistent with its testimony. At the NMED Hearing, Ms. Primm testified that there is no prohibition in the Air Quality Control Act or the regulations that would prevent the Bureau from considering the availability of water if the use of that water is a condition in the permit to effectuate emission controls. AR No.181, Bates No. 3808 at 11-17. Ms. Primm also testified that nothing in the Air Quality Control Act or the regulations prevents the Bureau from requiring the Applicant to prove an available source of water to implement required emission controls. AR No. 181, Bates No. 3808 at 18-21. In response to a question on cross-examination noting that the Air Quality Control Act does not prevent the Bureau from requiring the applicant to prove the source of water, Ms. Primm affirmed the ability of the Bureau to do so. *Id.*

Alto CEP argues that the Bureau's position that it can not require a demonstration of a sufficient source of water to implement emission control technologies is also contradicted by the Bureau's treatment of other emission control technologies. Alto CEP asserts that the Bureau has required the Applicant to install two particular types of baghouses, manufactured by a particular company, including the use of a differential pressure gauge and special sensors, all of which are intended to ensure that the emission rates as stated in the Application satisfy the PSD increment and NAAQS for PM. AR No. 98, Bates No. 1868-1869. Alto CEP points out that the conditions

require the installation of a particular baghouse and other technologies, with no discretion for the Applicant to choose otherwise, AR No. 98, Bates No. 1868, and argues that the application of sufficient water is integral to achieving the emission limitations and satisfying the NAAQS and PSD increment.

Alto CEP asserts that NMED witness Ms. Rhonda Romero, who testified concerning emission reduction controls, presented no testimony concerning the quantity of water necessary to mitigate fugitive dust in the stockpiles, or to implement the wet dust suppression system necessary to reduce fugitive emissions from Units 3, 4, 5, 6 and 11, as required by condition A502.A., and that Ms. Romero also presented no testimony or other evidence demonstrating an available source of water proposed by the Applicant to implement the wet dust suppression system and to achieve compliance with condition A502.A. Alto CEP argues that no evidence in the record exists which establishes, relates to, or in any way supports the Applicant's ability to obtain a sufficient water supply to implement the emission control technology represented in the Application and required by the Draft Permit.

c. Alto CEP Testimony and NMED Responses

Alto CEP presented witnesses concerning the consequences resulting from an insufficient water supply to implement the emission controls mandated by the Draft Permit and as set forth in Roper's Application

Ms. Bernal testified regarding the pre-controlled material handling particulate emissions at Process Unit 3, the Feed Hopper Conveyor, Unit 4, the 4-Bin Aggregate Bin, and Units 5 and 6, the Aggregate Weigh Batcher and Conveyor and the controlled material handling particulate emission rates. The pre-controlled emissions for Units 3-6 are set forth in Table 6-1 of the Application. The controlled emissions for Units 3-6 are set forth in Table 6-2 of the Application.

She testified that the sole emission control method proposed by Roper at each of these units is the addition of moisture content in the form of water sprays, and are no other proposed emission control methods or technology to control emissions at these sources. Alto Exhibit 16 at 2:11-3:12.

Sonterra testified at the NMED Hearing that "the weighted average moisture content for sand and gravel is stated to be 2.65%." Sonterra SOI at 9. Sonterra argued that "it is unclear where the values 213.75 and 123.75, found on pp. 2 and 8 in Section 6, used for the calculation of the weighted average moisture content for sand and gravel originate as they do not match the values stated in the Table. If the values are incorrect, the calculations on pp. 3, 4 and 9 in Section 6 would also be incorrect." *Id.*

In response to the Sonterra testimony concerning moisture content, the Bureau staff testified that:

> the 2.65 percent weighted average moisture for sand and gravel is the correct value. This was verified in Section 7 of the Excel spreadsheet, material handling sheet, cell C65, provided on . . . August 10th, 2021, by the [A]pplicant. The 2.65 percent weighted average moisture was derived using the formula 1.77 percent multiplied by 118.8 pounds per hour, plus 4.17 percent multiplied by 68.8 tons per hour divided by 187.5 times per hour. The incorrect values in Section 6 were typographic errors and were updated by the Applicant on January 28, 2022. These typographic errors did not affect the calculation of emissions. 2-9-22 Tr. 91:7-18.

On behalf of Alto CEP, Ms. Bernal also calculated water usage for dust suppression at process units 3 through 6 using guidance from AP -42, Section 11.19.2, which states that at least 1.5 percent moisture content from the materials is required to achieve the control efficiency claimed. Tr 594:18-595:5. She applied the 1.5 percent moisture content to the throughputs of units 3 through 6, which was 187.5 tons per hour, to calculate that approximately 9.33 acre-feet 1 per year of water will be needed to achieve dust suppression for those process units when the plant is operating at maximum capacity. She stated that the amount of acre-feet of water needed per year

was based on the maximum operating hours per year as represented in the Application. *Id.*

Ms. Bernal testified that the Applicant has not provided evidence that is an adequate and reliable source of water exists to implement the sole emission control at Units 3-6, the uncontrolled emission rate of particulate matter for these units could be as high as is 2.46 tons per year, which would total approximately 7.38 tons per year of particulate matter emissions for those units without water sprays to control emissions at these units, not the .159 tons per year as stated in the Application for these units. She concluded that the amount of particulate matter emissions from these process units would be higher than the Applicant claims without adequate water controls. Alto Exhibit 16 at 2:11-3:12. Ms. Bernal further testified that if there was not an adequate or reliable source of water to implement the control methods on Units 3 through 6, the amount of particulate matter emissions would be higher than what the Applicant states and higher than what is allowed in the Draft Permit. Tr. 593:16-21

Ms. Bernal also testified that Roper did not propose control methods or technology to control emissions on the haul roads as demonstrated in Section 6, p. 8 of the Application. Ms. Bernal pointed out that in the NMED Draft Permit, Condition A112, Section B, requires Roper to maintain the haul roads to minimize silt buildup to control emissions by applying water to the haul roads or by sweeping the haul roads. Alto CEP argues that without an available and reliable source of water to apply to the haul roads, sweeping the haul roads would be the only alternative to comply with the NMED-imposed condition to minimize silt buildup on the haul roads. Alto CEP further argues that the Applicant did not submit any evidence regarding either applying water to the haul roads or sweeping the haul roads, and there is no evidence that the Applicant will, or can, comply with this Draft Permit Condition. Alto Exhibit 16 at 2:11-3:12.

At the EIB Hearing, Alto CEP's witness Dr. Ituarte-Villareal testified that "the application is unreliable because it does not disclose how many trips water trucks will be made. We also do not know the source of the water to be transported on-site, nor do we know the quantity of water to be used to effectuate the emission controls." Alto CEP Exhibit 1, page 13.

In response, the Department's technical staff testified:

> Water trucks were not excluded from the 305 truck round trips per day limit in Condition A112.A of Draft Permit 9295 version 2021-12-30. Under 20.2.72 of the New Mexico Administrative Code (or NMAC), the AQB does not have authority to require RCI to prove what water resource will be used to control particulate emissions as represented in the Alto CBP application. The AQB can, however, enforce on the failure to apply water as represented in the Alto CBP application and emission calculations, and as required by the permit. The exact amount of water required to control fugitive particulate emissions depends on multiple variables such as precipitation, wind, and temperature. The application specifies additional moisture content to control PM_{10} and $PM_{2.5}$, as listed in Table 2-C: Emissions Control Equipment. The application states, "Fugitive dust emissions from material handling sources (Units 3, 4, 5, 6) will be controlled by adding water sprays at the exit of the aggregate/sand feed hopper (EPA AP-42 control efficiency of 95.82%). The emissions calculations for Units 3-6 were based on controlled emission factors in EPA's AP-42, Section 11.19.2 (08/04), Table 11.19.2-2. The controlled emission factors are based on wet suppression to reduce emissions. Allowable PM_{10} and $PM_{2.5}$ emission limits for Units 3-6 were based on the emissions calculations with wet suppression controls and established in Table 106.A of the permit. Compliance with allowable PM_{10} and $PM_{2.5}$ emission limits for Units 3-6 is demonstrated by complying with the requirements in Condition A502.A of the permit. For example, the second requirement in this condition states that if, at any time, visible emissions are observed, additional moisture shall be added to minimize visible emissions. Another example in this condition is the monitoring requirement for inspections to determine the additional moisture is adequate to minimize visible emissions. In addition, Condition A502.B of the draft permit requires a Fugitive Dust Control Plan for minimizing emissions from areas such as aggregate feeders, conveyors, storage piles, and other types of fugitive dust emitting sources. NMED EIB Amended Rebuttal Exhibit 2 at 4-5; AR No. 9, Bates No. 0370.. AR No. 9, Bates No. 0366; AR No. 1, Bates No. 0010; AR No. 87, Bates No. 0913; AR No. 45, Bates No. 0524; AR No. 9, Bates No. 0363; AR No. 9, Bates No. 0369-0370; AR No. 9, Bates No. 0370.

At the EIB Hearing, Alto CEP's witness Ms. Bernal testified that "[t]he Application has not specified the method and type of water sprays that Roper will use. The Draft Permit requires a Wet Dust Suppression System, but Roper has not provided any information regarding such a system. Again, there is no evidence that the Application will, or can, comply with the Draft Permit condition requiring a wet dust suppression system." Alto CEP Exhibit 16, pages 3-4.

In response, the Department's technical staff testified that:

> the application states, "Fugitive dust emissions from material handling sources (Units 3, 4, 5, 6) will be controlled by adding water sprays at the exit of the aggregate/sand feed hopper (EPA AP-42 control efficiency of 95.82%). The Wet Dust Suppression System (WDSS) requirements, monitoring, recordkeeping, and reporting are addressed in Condition A502.A of the draft permit. The WDSS includes water sprays or the addition of moisture to minimize fugitive emissions to the atmosphere for those specific units. The WDSS must be operational and functioning properly at all times the facility is operating. If visual emissions are observed at material transfer points, the permit requires that the WDSS be turned on. If there are still visible emissions while the WDSS is on, the permit requires that additional moisture be added. The permit also requires that the WDSS be inspected daily to ensure that the dust control is working efficiently. In addition, there are recordkeeping requirements associated with the WDSS. Records must be kept of all inspections on a daily basis to ensure that the system has been inspected. Per 20.2.72.200(E) NMAC, "For all sources subject to this part, applications for permits shall be filed prior to the commencement of the construction, modification or installation. Regardless of the anticipated commencement date, no construction, modification or installation shall begin prior to issuance of the permit." Exact makes and models of equipment are not always known when an application is submitted for a facility that requires a permit before it can be constructed. NMED EIB Amended Rebuttal Exhibit 2 at 6; AR No. 87, Bates No. 0913; AR No. 9, Bates Nos. 0369-0370.

Regarding the amount of water required to implement the Wet Dust Suppression System, Ms. Bernal testified at the EIB Hearing she further calculated an estimate of water trucks needed per day based on the gallons of water needed for both dust suppression and concrete production. She calculated that approximately 82,000 gallons of water would be needed per day when the plant is operating at maximum capacity as specified in the application. Because the Applicant did not

specify the volume of water trucks being used in the application, she assumed that 10,000 gallon water trucks were going to be used. If that is correct, at least 8 water trucks would be needed to be used per day when operating at maximum capacity as shown in the Application. Tr. 596:22-597:8.

Ms. Bernal testified that Roper did not provide any information regarding the type of water trucks that will deliver water to the plant, but assuming a 10,000 gallon water tanker truck is used, Roper will need 8 water trucks to deliver water to the plant if the plant is operating at maximum capacity as represented in the Application and authorized under the NMED Draft Permit. Ms. Bernal's calculations are set forth in Alto Exhibit 16 at 6:4-9.

Ms. Bernal also testified that the Application failed to include water trucks in calculating emissions. The amount of water trucks necessary for the proposed plant's water usage needs will add fugitive dust emissions due to increased vehicle traffic and Roper has not accounted for this increase in truck traffic on the haul roads. Alto Exhibit 16 at 6:11-14.

Ms. Bernal testified that even though the Applicant is claiming that water truck trips are included in haul road trips, it is difficult to verify that without an exact amount of water needed for operation or amount of water trucks needed for operation bring detailed by the Applicant. She stated that if Mr. Roper quantified the amount of water trucks and volume of water trucks being used, it would be easier to calculate the amount of water they are expecting to use during operations and the fact that Roper failed to specifically address these issues makes it difficult to verify Mr. Roper's unexplained calculations. Tr. 597:16-25.

Ms. Bernal also addressed Mr. Roper's direct testimony regarding water usage. Mr. Roper stated that water is needed for concrete production, dust suppression, haul road maintenance and watering of stockpiles. She testified that Mr. Roper never quantified the water usage necessary to

accomplish emissions control at the haul roads or at the stockpiles, so his calculations are based solely on dust suppression and concrete production. Tr. 598:1-9.

Ms. Bernal testified that there is no testimony or information in the record regarding how much water is necessary to control the visible emissions from the haul road or stockpiles. In addition, per AP-42, Section 13.2.4, water and/or chemical wetting agents are principal means for control of stockpiles. Based on the evidence presented by Roper and NMED, it is still unclear from the Application which control method Mr. Roper intends to use. Tr. 598:10-599:3.

Ms. Bernal's rebuttal testimony also addressed the fact that Mr. Roper stated that he anticipates the plant will need on average, 3,000 gallons of water for the production of concrete and 500 gallons of water for dust control per day of operation. Ms. Bernal testified that Mr. Roper failed to detail how he arrived at these average values, but it appears that his calculations were based on the concrete design mix table, mainly focusing on the amount of fine aggregate per cubic yard, with 2 percent moisture applied, as previously stated, as well as water being used per cubic yard for concrete production. Tr. 598:10-599:3. Ms. Bernal testified that using Mr. Roper's average daily estimates of 3,000 gallons of water for production and 500 gallons of water for dust control, she calculated that daily production would have to be less than 200 cubic yards per day. Tr. 599:4-7.

Ms. Bernal further testified that using Mr. Roper's estimate of annual value of gallons of water needed for production of concrete, he estimated that 750,000 gallons of water is needed on average for annual production of concrete, which means that annual production values would be approximately 24,000 cubic yards per year. Using the Applicant's estimate of 125,000 gallons of water needed for average annual dust suppression, annual production values would be approximately 48,000 cubic yards per year. Accordingly, those daily and annual production rates

are internally inconsistent and inconsistent with what is represented in the draft permit. Ms. Bernal states it is unclear how Mr. Roper arrived at these average values. She concluded that, if water usage was calculated based on the concrete design mix and the maximum daily and annual production values represented in the draft permit, it is clear that these amounts of water needed to be much higher than what Mr. Roper is estimating. Tr. 599:10-600:3.

Dr. Ituarte-Villarreal testified that Section 10 of the Application summarizes the routine operations of the proposed Facility. According to the proposed conditions of the Draft Permit, routine operations include managing fugitive emissions from the aggregate piles by the application of water, and applying water to paved roads on the proposed Facility, which are necessary to implement the pollution controls required by the Draft Permit. Dr. Ituarte-Villarreal testified that the summary of routine operations contains no explanation or reference to the application of the significant water that would be necessary to achieve the emission controls of the Draft Permit, including the wet dust suppression system necessary to minimize fugitive emissions from Units 3, 4, 5, 6 and 11. AR No.1, Bates No. 0142; Tr. 325:17-21.

Section 4 of the Application requires the Applicant to provide a Process Flow Sheet that identifies "all emission points and the types of control applied to those points." AR No.1, Bates No. 0027. Mr. Wade acknowledged that the Section 4 of the Application did not to indicate the presence of a Wet Dust Suppression system, or any water delivery equipment at Units 3 through 6 and the aggregate piles. Tr. 290:4-23.

Mr. Wade did not describe the existence of, or the details regarding, a Wet Dust Suppression system, or any other water delivery equipment, when describing the equipment located at the proposed plant. Tr. 262:10-21. This omission is highlighted by the fact that Mr. Wade specifically noted the only other emission control technology equipment – the baghouses.

Id. Mr. Wade acknowledged that there was no evidence regarding a Wet Dust Suppression system. Tr. 281:6-282:3.

Mr. Wade did not describe how or when water would be applied to any emission sources, including Units 3 through 6, the aggregate piles, and the haul roads when describing the layout and operations of the proposed plant. Tr. 263:1-265:3. Mr. Wade acknowledged that the AP-42 factor, 11.19.2-2, he used for the controlled emission valued at Units 3 through 6 was for plants that "employ current wet dust suppression technology similar to the study group." Tr. 278:5-9.

At the EIB Hearing, Mr. Wade specifically declined to identify a Wet Dust Suppression System, instead noting that Roper was requesting use of a Wet Dust Suppression System or adding moisture to the aggregate piles as part of "the fugitive dust suppression" required by the permit. Tr. 265:4-24; Tr. 279:4-9; Tr. 283:16-21. Mr. Wade pointed to Section 2, Table C of the Application as support for identification of a water delivery method at emission sources, but that table only notes that the emission control of Units 3 through 6 is "Additional Moisture Content." AR No.1, Bates No. 0010; Tr. 291:16-22.

In summary Alto CEP argues that the Applicant presented no testimony or evidence, including modeling, that would indicate whether emissions using the correct concrete batch plant haul road values, together with emissions resulting from an inadequate and unreliable supply of water to implement the controls for Units 3, 4, 5, 6 and 11, would cause impermissible emissions of PM10 that would exceed the applicable NAAQS and PSD increment levels. Alto CEP argues that even without considering such omitted evidence, the Application acknowledges that PM10 for a 24-hour period has already consumed 99.3% of the allowable PSD increment and 83.1% of the allowable standard for NAAQS. AR No. 1, Bates No. 0165-0166. Alto CEP further argues neither Roper nor the NMED presented evidence that additional emissions derived from using

what he believes are the correct haul road values and the absence of a reliable water supply for the wet dust suppression system would not exceed the percentages available for the PSD increment and the NAAQS.

Alto CEP presented Eluid Martinez to testify about the Applicant's alleged failure to demonstrate a sufficient source of water for the proposed manufacturing process and emission controls.

Mr. Martinez testified on behalf of Alto CEP at the NMED Hearing, that the Application is "incomplete" because it does not identify the source of water used in the Facility operations. Mr. Martinez opined that "[w]ithout a known supply and source of water, the ability of the applicant to control emissions at Units 3, 4, 5 and 6 renders the conclusions for emission controls unreliable and ineffective." Sonterra SOI at 12.

In response, the Bureau testified that "[i]n matters relating to water rights, those are not regulated in the Clean Air Act or the New Mexico Administrative Code." 2-9-22 Tr. 150:15-17.

The Bureau testified that in the event the Applicant failed to use water for emission controls as specified in the Draft Permit, "the Bureau does have the regulatory authority to enforce on the failure to apply water as represented in the permit application, and emission calculations, and as required by the air quality permit." 2-9-22 Tr. 152:8-11.

At the NMED Hearing, Mr. Martinez offered the opinion that the Application is incomplete because "[w]ithout an identification of the amount of water that will be consumed to effectuate the emission controls for these four (4) units, there is no way to determine the additional emissions caused by water trucks to the extent that water trucks are required to deliver water to the concrete batch plant location to achieve the emission controls identified in the application." Alto CEP SOI at 14.

In response, the Bureau testified that:

> the amount of water required to control emissions for these units is not quantified in the Application or the Draft Permit because the amount of water required to control particulate emissions from these units depends on multiple variables such as precipitation, wind, and temperature. Compliance with allowable particulate emission limits for these units is demonstrated by maintaining and operating a wet dust suppression system according to requirements in condition A502.A of the Draft Permit . . . The condition for the wet dust suppression system speaks to visible emissions and inspecting equipment to make sure that visible emissions are minimized, so it's not -- it's not a quantitated value in the permit. It's based on real-life conditions. These facilities are outside, of course, so the elements have a big impact on the emissions and how much water is required to minimize fugitive dust. 2-9-22 Tr. 152:20-153:4 and 254:10-17.

Also at the NMED Hearing, Mr. Martinez offered the opinion that "the Application incomplete and unreliable" because haul road fugitive calculations were not present in Tables 2-A, 2-D, and 2-E. Alto CEP SOI at 14.

In response, the Bureau testified at the NMED Hearing that:

> [a]llowable particulate emissions limits from the paved haul road at the facility are established in Table 106A of the Draft Permit. Compliance with those limits is demonstrated by limiting truck traffic. Condition A112A of the draft permit limits the truck traffic on the paved roads at this facility to 305 round trips per day. This condition requires the permittee to monitor the total number of round trips per day and keep records of the total number of held trips per day. Water trucks are not excluded from this condition. 2-9-22 Tr. 154:10-17.

At the EIB Hearing, the Department testified that:

> The AQB is not required to identify the water source the applicant will be using to achieve the emission controls. The AQB does not have the jurisdiction in determining where the water used to comply with permit conditions is sourced. Water availability is under the jurisdiction of The Office of the State Engineer. It is the responsibility of the applicant to determine the availability of water resources for complying with permit conditions. Issuance of an air quality permit does not interfere with the applicant's obligations to comply with other applicable laws and regulations. NMED EIB Exhibit 1 at 7.

At the EIB Hearing, the Department further testified that

> If a permit holder could not obtain water to comply with permit conditions, they would not be authorized to operate the activities that require water for emission controls. A permit holder cannot change the method of controlling particulate emissions unless an application for a permit revision was approved by the Department. If a permit holder does not have sufficient water resources to comply with permit conditions, but continues to operate without the use of water, they may be subject to enforcement action. NMED EIB Exhibit 1 at 7.

At the EIB Hearing, Mr. Martinez testified that while the Application provides information as to how much water is anticipated to be used for the production of concrete, it makes no reference to the amount of water that's to be used for the control units or for the uncontrolled -- aggregate piles moisture content. Tr. 609:3-8.

Mr. Martinez also testified regarding the necessity of water to control emissions as represented in the Application. He stated that the majority of the "Emissions Control Equipment" identified on Table 2-C of the Application is "Additional Moisture Content." However, Table 2-C does not identify the amount of water that comprises the "Additional Moisture Content" emission control equipment to control fugitive dust emissions from Unit 3, the Feed Hopper Conveyor, Unit 4, the Aggregate Bins, Unit 5, the Aggregate Weight Batcher, and Unit 6, the Aggregate Delivery Conveyor. Mr. Martinez concluded that without a known supply and source of water, the ability of the Applicant to control emissions at Units 3, 4, 5 and 6 renders the conclusions for emission controls unreliable and ineffective. Alto Exhibit 20 at 2:8-16.

Regarding potential sources of water, based on Mr. Martinez' review of the Application and his experience with water rights administration, he testified to the following: the only potential sources of water that could be provided to the proposed concrete batch plant are: (1) an existing source on the property; (2) the delivery of water via pipeline; and (3) trucking water to the facility from an off-site location. He stated that the Applicant applied for and received a permit on May

7, 2021 to drill a livestock watering well and to divert up to 3.0 ac-ft/yr. He further stated that, the permitted use of water for this well does not extend to diverting water from this source for the operation of a concrete batch plant, or to the water necessary for effective emissions control. An application seeking a permit for new appropriation of groundwater for the industrial uses at the proposed Facility would be subject to the rigorous and time-consuming process in front of the Office of the State Engineer. He stated that, the Applicant could file an application to transfer water rights, but such a process is costly and takes a considerable amount of time before a final determination is made regarding whether the application will be granted or denied. He further stated that a pipeline is impractical given the easement issues concomitant with constructing a pipeline crossing private and public lands. Mr. Martinez concluded that trucking water is the only viable option to provide water to the facility in the near future. Alto Exhibit 20 at 2:20-3:12.

Mr. Martinez also testified that there is no information in the Application that addresses quantification of the amount of water necessary for the abatement that is called for in the units in the Application. Tr. 612:8-14.

Mr. Martinez further testified that the Application identifies uncontrolled emissions at the aggregate piles, but the Application implies that the aggregate piles, the sand and the aggregate would have a certain moisture content in the pile itself that Mr. Martinez interpreted that to mean that that moisture content would control or would result in controlling any emissions that might result. Tr. 612:18-25.

Mr. Martinez stated that without an identification of the amount of water that will be consumed to effectuate the emission controls for the four (4) operating units, there is no way to determine if the Applicant can actually achieve the emission controls identified in the Application. Alto Exhibit 20 at 3:21-23.

Mr. Martinez testified that the information provided in the Application indicates that that average would be 2.65 percent of the weight of the material. Based on a 500,000 cubic yard production per year, maximum production, he estimated that it would take about 14 acre-feet of water applied to the aggregate piles to maintain that 2.65 percent. Tr. 613:1-6.

Mr. Martinez further testified that the estimated the amount of water necessary to achieve the required 2.65% of moisture volume within the aggregate and sand piles required for those piles under Draft Permit Condition A502A was 14 acre-feet per year above and beyond the water necessary for the production of concrete and to achieve the emission controls at Units 3 through 6. Alto Exhibit 20 at 4:4-7.

Mr. Martinez opined that the testimony in the NMED Hearing indicates that somewhere around 62 acre-feet of water would be necessary to operate the plant both from a production standpoint and from a moisture content requirement in the aggregate pile, in the sand pile, but was unable to determine or estimate how much water would be necessary at the identified units that need the dust suppression. Tr. 613:7-14.

Mr. Martinez testified that the Application requires identification of tanks on the proposed Facility. He found no reference to water tanks, and the Application makes no reference to the use of water storage tanks on the proposed Facility, which then led him to another conclusion, if the only viable way of getting water to the proposed Facility would be through trucks. He questioned whether the trucks that would be necessary had been included in the analysis of truck traffic in and out of the facility, and how that would affect the emissions' calculations in the application. Tr. 614:7-17.

Mr. Martinez testified that in his opinion, in an Application that identifies water as the sole and principal means of addressing abatement of emissions, it appears appropriate that there should

be information available to the reviewing parties that the water supply is available, obtainable and can be delivered. Tr. 614:23-615:3.

Mr. Martinez opined that it is a disservice to the Applicant and to the public to allow a project to be built on the assumption that water will be available, and if it is not, then the facility is required to shut down. Tr. 615:4-8. He further opined, it is not in the interest of an Applicant, nor in the public interest, to authorize construction of a plant only for the plant to be shut down based on the unavailability of water to comply with the Permit Conditions requiring water application. Alto Exhibit 44 at 5:5-11.

d. Hearing Officer's Comment

In summary, Alto CEP asserts that there is no indication from the Applicant, or from any evidence presented by Roper or the NMED, demonstrating a viable source for this significant amount of water, nor is there any mention of the additional quantities of water which will be necessary to implement the spray technology emission controls for Units 3, 4, 5 and 6.

NMED and the Applicant argue that water availability is not subject to NMED jurisdiction and had never been considered by NMED in connection with review of air quality permits. Alto CEP argues that water availability is crucial to the Applicant's ability to meet the control mechanism that is a condition in the Draft Permit for reducing emissions of particulate matter to meet the applicable air quality standards. NMED and the Applicant counter that requiring proof of water availability is not a matter within the jurisdiction of NMED, and regulation of water availability would be a change in long-standing administrative practice by NMED requiring advance notice of the change. The Hearing Officer concludes that Alto CEP's raises significant policy issues worthy of serious consideration by the Board. Roper and NMED raise significant legal issues that would need to be addressed, prior to consideration of Alto CEP's issues. Another

consideration is if a process could be developed under which this issue can be considered and additional conditions imposed before issuance of any permit for the proposed Facility.

PUBLIC TESTIMONY AND COMMENT AT THE EIB HEARING

At the EIB Hearing, time was reserved each day for non-technical public testimony. Approximately 36 persons submitted non-technical public testimony during the EIB Hearing. All public comment is included in the transcript of the hearing.

Approximately one hundred (100) written comments were submitted for the record. Those comments can be found on the NMED website at the EIB page in the dropdown file for this proceeding.

The public testimony and comments showed strong opposition to the proposed Facility from those who testified and commented.

Respectfully Submitted,

/s/ Richard L.C. Virtue
Richard L. C. Virtue, Hearing Officer

ATTACHMENT 1 TO HEARING OFFICER'S REPORT RECOMMENDED FINDINGS OF FACT AND CONCLUSIONS OF LAW

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD

IN THE MATTER OF THE PETITION FOR HEARING ON AIR QUALITY PERMIT NO. 9295, ROPER CONSTRUCTION INC.'S ALTO CONCRETE BATCH PLANT, **No. EIB 22-34**

Roper Construction Inc.,
Petitioner.

HEARING OFFICER'S RECOMMENDED FINDINGS OF FACT AND CONCLUSIONS OF LAW

FINDINGS OF FACT

A. THE APPLICANT AND THE PROPOSED FACILITY

1. Roper Construction, Inc. ("Roper" or "Applicant") is a New Mexico-based domestic profit corporation and the owner/operator of the proposed Alto Concrete Batch Plant ("Facility"). AR No. 1, Bates No. 0003-0004.

2. The Facility is located at Section 27, Range 13E, Township 10S, Lincoln County, New Mexico. AR No. 1, Bates No. 0004.

3. The Applicant filed Application 9295 ("Application") for an air quality construction permit pursuant to 20.2.72 NMAC, for the proposed Facility to include an aggregate feed hopper (Unit 2), aggregate feed hopper conveyor (Unit 3), 4-bin aggregate bin (Unit 4), aggregate weigh batcher with conveyor (Units 5 and 6), cement/fly ash split silo (Units 9 and 10) with screw conveyors and dust collectors (Units 9b and 10b), cement/fly ash batcher (Unit 8) and concrete truck loading area (Unit 7) with central dust control system (Unit 7b) to control fugitive dust from the truck loading area and cement/fly ash batcher, aggregate and sand storage piles (Unit 11), and three heaters at .19 MMBtu/h each (units 12,13 and 14). AR No. 2, Bates No. 0191.

4. The Application proposed the Facility hours of operation of 7AM-6PM from November through February, 5AM-7PM March and October, 4AM-9PM April and September, and 3AM-9PM May through August. The Applicant certifies that the Facility will limit the hourly production rate to 125 cubic yards per hour and yearly production rate to 500,000 cubic yards per year. The annual emissions are controlled by limiting the hours of operation and annual throughput of the Facility. NMED Exhibit 1 at 3.

5. During the proposed operations at the Facility, a front-end loader will load aggregate and sand into the aggregate feed hopper. The aggregate feed hopper conveyor transfers the material to the 4-bin aggregate bin. The aggregate and sand in the 4-bin aggregate bin is measured by the aggregate weigh batcher and transferred to the batcher conveyor. From the batcher conveyor, the aggregate and sand will be transferred to a truck loading area where they will be loaded into the concrete trucks. Fugitive dust created while loading concrete trucks will be controlled by the central dust control system as outlined in Section A502 of the Draft Permit. AR No. 119, Bates No. 2113-2114. Dust collected in the dust control system will be recycled back to the cement silo. AR No. 2, Bates No. 0191.

6. Measured amounts of fly ash and cement from the cement/fly ash split silo will be transferred by screw conveyors or gravity feed to the cement/fly ash batcher. From the cement/fly ash batcher, the measured material will be loaded into the concrete trucks at the same time as the aggregate, sand, and water. Fugitive dust created during transfer to the cement/fly ash batcher will be controlled by a central dust control system. During loading of the cement/fly ash split silo, fugitive dust will be controlled by a dust collector for each compartment of the split silo. Haul roads on site will be paved and maintained to reduce particulate emissions from truck traffic. AR No. 2, Bates No. 0192.

B. THE AIR QUALITY BUREAU ("AQB" OR "BUREAU") OF THE NEW MEXICO ENVIRONMENT DEPARTMENT ("DEPARTMENT" OR "NMED") ADMINISTRATIVE AND TECHNICAL REVIEW OF THE APPLICATION

i. The Bureau's Administrative Review

7. Application 9295 was received by the Bureau on June 22, 2021. NMED Exhibit 1 at 5.

8. Upon receipt of the hard copy of the Application, on June 23, 2021, the Bureau requested that Applicant provide the electronic version of the documents due to the mandatory teleworking policy at the Department. The Applicant provided an electronic documents to the Bureau's permitting section and the modeling files to the Bureau's Modeling Section. A copy of Application 9295 was posted on the Bureau's web page for permit applications with public interest on June 23, 2021 AR No. 94, Bates No. 1741.

9. On June 28, 2021, Bureau technical staff received an email from the Bureau's Modeling Section manager, confirming that Application 9295 was complete from a modeling perspective. AR No. 89, Bates No. 0965-0966.

10. On July 19, 2021, Bureau staff sent an email to the Applicant's representative requesting the property tax record, the certified mail receipt for Reynaldo Cervantes, and an example of the letter sent to the landowners. The Applicant's representative responded on July 19, 2021, providing the list provided by the Lincoln County Assessor's office, the certified mail receipt for Reynaldo Cervantes' Mexican address which was already present in the original application, and a statement that the letter sent to the government officials was also sent to the landowners. AR Nos. 36 Bates 0481; 37 Bates 0482-0487.

11. On July 22, 2021, the Bureau ruled Application 9295 administratively complete NMED Exhibit 1 at 5; AR No. 38, Bates No. 0488-0493.

12. The Bureau sent the administrative completion determination letter, a copy of the Department's Legal Notice, and an invoice for the permit fee to the Applicant on July 22, 2021. NMED Exhibit 1 at 6; AR No. 38, Bates 0488-0493.

13. On July 22, 2021, the Bureau sent the Department's Legal Notice to Environmental Protection Agency ("EPA") Region 6. The Bureau also sent, by email, the Department's Legal Notice to the Lincoln National Forest and Smokey Bear Ranger District. The Department's Legal Notice was posted on the Bureau's website on the web page for permit applications with public interest. The Bureau's administrative staff sent the Department's Legal Notice to *Ruidoso News* for publication, and it was published in that newspaper on July 28, 2021. NMED Exhibit 1 at 6-7; AR No. 97, Bates 1839-1841; AR No. 96, Bates 1835-1836; AR No. 97, Bates 1839-1841; AR No. 106, Bates 2020; AR No. 104, Bates 1980.

ii. The Bureau's Technical Review

14. The Bureau began the technical review of Application 9295 after it was deemed administratively complete. The technical review requires verification of emission calculations and a determination of applicable federal regulations and state regulations. NMED Exhibit 1 at 7.

15. While performing the technical review, the Bureau determined that the emissions represented for Unit 12 were derived from 3 heaters combined, and because there were 3 units, an additional fee was calculated and an invoice for the additional two heaters was sent to the applicant on August 5, 2021. During the technical review, Bureau staff noticed that Section 1D, questions 7 and 11 were not reflective of the notification provided to the Mescalero Tribe in the original application (page 105 of the original application). The Bureau requested updates for those questions from the Applicant's representative on August 7, 2021, and the Bureau received the

updates on August 10, 2021. NMED Exhibit 1 at 7-8; AR No. 1, Bates 0001-0190; AR No. 43, Bates 0515-0516.

16. Bureau staff verified the emission calculations contained in the Application by confirming that the correct emission factors and formulas were used in calculating emission for all sources. The Bureau also verified the emission totals from the calculations matched the emissions total in Section 2 of the Application. NMED Exhibit 1 at 8; AR No. 5, Bates 0208-0241.

17. Roper submitted several updates to the Application throughout the review process. NMED Exhibit 1 at 8.

18. The Bureau reviewed the emission calculations submitted in the Application for all regulated equipment and the emission factors are based upon the EPA's AP-42 Compilation of Air Emission Factors. AP-42 is the EPA's compilation of emission factors for various industries. Emission factors are representative values that relate to the quantity of a pollutant released to the ambient air with an activity associated with the release of that pollutant. These factors are usually expressed as the weight of pollutant divided by a unit weight, volume, distance, or duration of the activity emitting the pollutant. The factors are expressed in units such as pounds per ton of material processed and pounds per hour. Use of such factors facilitates estimation of emissions from various sources of air pollution. In most cases, these factors are averages of all available data of acceptable quality and are generally assumed to be representative of long-term averages. NMED Exhibit 1 at 8-9; AR No. 1, Bates 0001-0190; AR No. 5, Bates 208-241.

19. The Department determined that the emission factors used in the calculations are appropriate for this source type and ere approved by the Department. The approved calculated emission rates were used as inputs into the Bureau's air dispersion modeling analysis. The air

dispersion model conservatively predicts concentrations of the National Ambient Air Quality Standards ("NAAQS") based upon the approved emission rates. NMED Exhibit 1 at 9.

20. During the technical review, Bureau staff began work on a Draft Permit and a Draft Statement of Basis. The Statement of Basis is a permitting record that includes a description and history of the facility, public response received by the Bureau, a regulatory compliance discussion, and outlines unique conditions in the permit. After completing the initial draft permit version 2021-09-13, Bureau staff sent it to the Applicant's representative for comments, and received comments on the Draft Permit from the Applicant's representative on September 15, 2021. AR No. 68, Bates 0678-0693; AR No. 69, Bates 0694-0711.

21. The Applicant requested that the Bureau update Condition A108B (monitoring and record keeping), Condition A112 (haul roads), Condition A502 (process equipment); and Condition A503C. The Bureau sent Draft Permit version 2021-12-16 to the Applicant's representative for comments on December 22, 2021 and received a response on December 23, 2021. AR No. 80, Bates No. 0826-0841; AR No. 81, Bates No. 0842-0860.

22. The Draft Permit versions dated December 8, 2021, and December 30, 2021, were provided to the Compliance and Enforcement section of the Bureau for comments. In addition, the Bureau did a further analysis to ensure enforceability of the permit condition. NMED Exhibit 1 at 10; AR No. 8, Bates No. 0333-0337.

iii. <u>The Bureau's Review of the Air Dispersion Modeling</u>

23. The Bureau's modeling staff testified that, in order to be issued an air quality construction permit under 20.2.72 NMAC, the Applicant must demonstrate that construction of the proposed Facility will not cause or contribute to any violations of National or New Mexico Ambient Air Quality Standards, Prevention of Significant Deterioration (PSD) Increments, or State

Air Toxic pollutant requirements. National Ambient Air Quality Standards are periodically reviewed by the Environmental Protection Agency and are designed to protect the most sensitive individuals. PSD increments are designed to maintain the air quality of pristine areas. Toxic permitting thresholds prevent persons from being exposed to more than one percent of the amount that has been deemed acceptable for workers to be exposed to throughout the day. NMED Exhibit 3 at 2.

24. The Bureau's modeling staff reviewed the air dispersion modeling submitted by the Applicant, and verified that the Application followed appropriate modeling practices, as set out in the New Mexico Modeling Guidelines. NMED Exhibit 7 (NMED Hearing). Details of the modeling are described in the Modeling Review Report, which is contained in the Administrative Record. NMED Exhibit 3 at 1; NMED Exhibit 7; AR No. 6.

25. Bureau staff testified that, if the Facility operates in compliance with the terms and conditions of the draft permit, then operation of the Facility will not cause or contribute to any concentrations of pollutants above State or federal ambient air quality standards or PSD increments. Bureau modeling staff testified that, since the Facility has satisfied all modeling requirements, the permit may be issued. NMED Exhibit 3 at 2.

C. THE BUREAU'S PUBLIC OUTREACH

26. The Application had significant public interest as documented by phone calls, emails and hard copy letters sent through U.S. Postal Service since June 3, 2021. Bureau staff reached out to several of the members of the public by telephone and email, and explained the permitting process. The Bureau also sent out emails to concerned citizens on June 24, 2021, indicating that the Application was received, outlining the permitting process, and indicating that their concerns were recorded. Initial citizen letters were sent to concerned citizens on record on

June 30, 2021, July 1, 2021, July 22, 2021, and September 17, 2021. NMED Exhibit 1 at 10; AR No. 95, Bates 1742-1835.

27. The Bureau sent an initial citizens letter by email to interested citizens with email addresses on record providing more clarity on the permitting process on July 22, 2021. On July 1, 2021, and July 23, 2021, the Bureau provided hard copy initial citizen letters to be mailed out to citizens who did not provide an email address. NMED Exhibit 1 at 10-11; AR No. 103, Bates No. 1968-1979; AR No. 95, Bates No. 1742-1835.

28. The initial citizen letter is a template letter developed to comply with requirements in 20.2.72.206(B)(1) NMAC. The letter confirms citizens' written comments will be included as part of the permit application record. The letter also provides general information about the permit process, the pending availability of the Department's analysis, and the option to request a public hearing. NMED Exhibit 1 at 11; AR No. 95, Bates No. 1749.

29. Interested persons were allowed thirty (30) days after publication of the public notice of filing of the Application to express an interest in writing in the Application per 20.2.72.206(A)(5) NMAC. The public notice was published in the newspaper on July 28, 2021, and at the end of the 30-day comment period was August 27, 2021 NMED Exhibit 1 at 11; AR No. 104, Bates No. 1980.

30. There were several requests for a public hearing to be held in this matter and the Bureau sent a Hearing Determination request to the office of the Secretary of the Department on August 3, 2021. The Secretary concurred with the Bureau's recommendation for a public hearing to be held based on the significant public interest and issued a Hearing Determination. The Bureau provided information concerning the Hearing Determination to concerned citizens with email addresses on record via email. Several more concerned citizens letters and emails were received

after the result of the Hearing Determination and the Bureau sent initial Citizen letters on September 17, 2021, to citizens who had sent comments after July 23, 2021. NMED Exhibit 1 at 11; AR No. 92, Bates No. 0982-1271; AR No. 93, Bates 1272-1667; AR No. 94, Bates No. 1712; AR No. 95, Bates No. 1742-1834.

31. The Bureau's analysis, including the Statement of Basis and modeling review report were posted on the Department webpage for public notices under Lincoln County. NMED Exhibit 1 at 11; AR No. 106, Bates No. 2002-2023.

32. On September 21, 2021, the Bureau sent out second Citizen letters to all citizens who had expressed an interest in the application in writing up to date. The second Citizen letter is a template letter to notify citizens the Department's analysis is available for review. The letter included a link to the Department's analysis, including the Statement of Basis and modeling review report, which were posted on the new Department webpage for public notices under Lincoln County. NMED Exhibit 1 at 11; AR No. 98, Bates No. 1851-1916.

D. THE DRAFT PERMIT

33. 20.2.72.210 NMAC provides that a permit must specify what equipment is authorized to be installed and operated, place limits on air pollutants, and place requirements on how equipment will be operated. A permit is an enforceable legal document, and includes emission limits, methods for determining compliance on a regular basis, and also includes monitoring, recordkeeping, and reporting requirements to ensure and verify compliance with the requirements of the permit. Conditions in Part A of the Draft Permit are Facility Specific Requirements, unique to the facility. They are site-specific and based on information provided in the Application. Conditions in Part B of the Draft Permit are General Conditions and standard language which generally apply to all sources. Part C is also standard language about supporting

on-line documents, definitions, and acronyms which apply to all sources. NMED Exhibit 1 at 13-14.

34. A draft permit is subject to updates throughout the review process. The Draft Permit began with standardized language in a Bureau permit template with standardized Bureau monitoring protocols added as necessary for the sources of emissions and control devices at the Proposed Facility. NMED Exhibit 1 at 14.

35. Bureau staff included unique permitting conditions in the Draft Permit for site specific operations and equipment, based on information provided in the Application. The Draft Permit was then sent to the Applicant and its representative to provide an opportunity to review and comment. The Applicant proposed changes to monitoring requirements for Facility throughput and visible emissions. NMED Exhibit 1 at 14; AR No. 69, Bates No 0694-0711.

36. The Bureau reviewed the Applicant's proposed changes and confirmed that the requests would be enforceable, then made edits to the conditions with which the Bureau agreed. The Bureau did not agree with all the requests the Applicant submitted. In the updated Draft Permit (Version 2021-12-30), monitoring and record keeping requirements for Condition A108B facility throughput and visible emissions were revised from hourly to daily after further review and explanation by the applicant regarding the maximum physical production limits. NMED Exhibit 1 at 14; AR No. 74, Bates No. 0806-0810.

37. In the Draft Permit (Version 2021-12-30), for condition A503C monitoring the Bureau determined that the most reasonable requirement would be for the Applicant to do, at minimum, a weekly monitoring requirement as opposed to the monthly requirement requested by the Applicant and the daily requirement posted in the previous permit draft. In the Draft Permit (Version 2021-12-30), Condition A503D updated the recordkeeping requirement with respect to

differential pressure was updated from daily to each time cement (unit 9) or fly ash (Unit 10) loading takes place. NMED Exhibit 1 at 14-15; AR No. 81, Bates No. 0842-0860.

38. Pursuant to 20.2.72.206(B)(2) NMAC, a draft permit can not be issued until at least 30 days after the Department's analysis is available for review. The Draft Permit was revised to incorporate all the calculation updates provided by the Applicant's representative. Updates related to typographic errors, address update for the Facility and incorrect unit number references provided by the Applicant and all of the updates were posted on the Department's webpage for public notices under Lincoln County. NMED Exhibit 1 at 11-12; AR No. 106, Bates No. 2002-2023.

39. An updated version of the Draft Permit (Version 2021-12-30), an updated version of the draft Statement of Basis (Version 2021-12-30), and the draft Database Summary (Version 2021-12-30), were posted on the Department's webpage for public notices under Lincoln County. NMED Exhibit 1 at 12; AR No. 9, Bates No. 0338-0395; AR No. 2, Bates No. 0191-0198; AR No. 3, Bates No. 0199-0203.

40. The Bureau created a document titled "Frequently Asked Questions" ("FAQs") in response to citizens' comments and questions regarding the Application and Draft Permit and posted it on the Department's webpage for public notices under Lincoln County on December 30, 2021. The FAQs were developed by grouping like-kind public comment questions into 19 FAQs with associated answers. NMED Exhibit 1 at 12; AR No. 99-102, Bates No. 1917-1967; AR No. 106, Bates No. 2002 -2023. AR No.103, Bates No. 1968-1979.

41. Bureau staff testified that the Applicant is required to operate the Facility as represented in the Application and any Application updates. The failure to operate the Facility as represented in the Application and the Application updates would be considered a violation of the permit and would be referred to the Enforcement Section at the Air Quality Bureau. In addition,

the Draft Permit contains operating, monitoring, and recordkeeping conditions to ensure compliance with the emission rates in the permit. 2-9-22 Tr. 87:14-22.

E. PUBLIC NOTICE AND THE NMED FEBRUARY, 2022 PUBLIC HEARING

42. Because of significant interest by members of the public, the Secretary determined that a hearing would be held in this matter under 20.1.4 NMAC. On November 16, 2021, the Secretary entered an Order for a hearing and appointment of a hearing officer. NMED Exhibit 1 at 11.

43. The NMED Hearing Officer scheduled a public hearing for February 9 through 11, 2022 ("NMED Hearing"). Bureau staff made arrangements for a Spanish interpreter to be present at the NMED Hearing and for a court reporter to be present at the NMED Hearing. NMED Exhibit 1 at 12.

44. Due to the public health orders issued by the State related to the Coronavirus pandemic, the NMED Hearing Officer ordered that the public hearing would be a "hybrid" hearing, allowing for both virtual and in-person participation by members of the public.

45. The Bureau staff drafted the Notice of Hearing in accordance with the requirements in 20.1.4 NMAC. The Notice of Hearing was translated into Spanish and received by the Bureau on December 21, 2021. NMED Exhibit 1 at 12.

46. On December 30, 2021, the Notices of Hearing in both English and Spanish were posted on the Department's webpage for public notices under Lincoln County and Roper Construction Inc. documents. The Bureau's Administrative staff e-mailed requests for publication of the Notice of Hearing in English and the Notice of Hearing in Spanish to *The Albuquerque Journal* and *Ruidoso News* on December 30, 2021. *Id.*

47. On January 3, 2022, the Bureau sent e-mails with the Notice of Hearing in English and Spanish attached to EPA Region 6, the Lincoln County Clerk, the Ruidoso Village Clerk, Ruidoso Downs City Clerk, Capitan Village Clerk, and to Christina Thompson, Travis Moseley, Camille Howes, Andres Bolanos, Laura Rabon and Sean Donaldson at the White Mountain Wilderness/Lincoln National Forest and Smokey Bear Ranger District. NMED Exhibit 1 at 13; AR No. 101, Bates No. 1949-1956.

48. Also, on January 3, 2022, the Bureau mailed hardcopies of a cover letter and the Notice of Hearing in English and Spanish in an envelope to interested citizens. These citizens had submitted written comments only by U.S. Postal Service and did not provide their email addresses in their comment letters. The Bureau delivered these envelopes to the Runnels Building on January 4, 2022, so they could reach the Department's Administrative Services Division (ASD) for postage and mailout on January 5, 2022. On January 3, 2022, and January 4, 2022, the Bureau emailed the cover letter and Notice of Hearing in English and Spanish to all the citizens who had provided written comment via email or provided their email address in their mailed letter as of January 3, 2022. AR No. 99, Bates No. 1917-1937; AR No.100, Bates No. 1938-1948.

49. The Notice of Hearing was published in English and in Spanish in *The Albuquerque Journal* and *Ruidoso News on* January 5, 2022. NMED Exhibit 1 at 12; AR No. 104, Bates No. 1980-1997.

50. The NMED Hearing in this matter was held and concluded on February 9, 2022. The NMED Hearing Officer, the Parties, and many members of the public appeared virtually on the WebEx platform. For members of the public who wanted to participate in-person, the Bureau provided a venue at the Capitan Municipal Schools where members of the public could view and participate in the Hearing.

F. PUBLIC NOTICE OF THE HEARING AND THE OCTOBER 2022 EIB PUBLIC HEARING

51. For the EIB Hearing, Department staff prepared the Notice of Hearing in accordance with the requirements of 20.1.2 NMAC and arranged to have it translated into Spanish by Ana Maria MacDonald, Translation Program Manager for the Department. Department staff created the Notice of Hearing in English and the Notice of Hearing in Spanish on Board letterhead. NMED EIB Exhibit 1 at 4; NMED EIB Exhibits 3 and 4.

52. Department administrative staff mailed out hard copies of the Notice of Hearing in English and the Notice of Hearing in Spanish on September 7, 2022. They prepared envelopes with labels to be mailed by the U.S. Postal Service to citizens who submitted written comments to Department by US Postal Service and did not provide an electronic mail address prior to the NMED Hearing. NMED EIB Exhibit 1 at 4-5.

53. Department staff sent the Notices of Hearing in English and in Spanish to the Office of Public Facilitation ("OPF") via email on September 7, 2022. OPF posted the Notice of Hearing in English and in Spanish on the Department's Docketed Matters website under the Environmental Improvement Board dropdown, in the section for EIB 22-34 Appeal Petition – Permit No. 9295 Roper Construction Inc. on September 9, 2022. NMED EIB Exhibit 1 at 5; NMED EIB Exhibit 7.

54. The Notice of Hearing for EIB 22-24 was published in English and in Spanish in *The Albuquerque Journal* on September 10, 2022. The Notice of Hearing was published in English and in Spanish in *Ruidoso News* on September 14, 2022. NMED EIB Exhibits 5 and 6.

55. On September 9, 2022, the Department sent out emails with the Notices of Hearing in English and in Spanish attached. The email messages announced the date for the public hearing before the Board and provided the link to the Department's Docketed Matters website under the Environmental Improvement Board dropdown, in the section for EIB 22-34 for more information.

These emails with Notices in English and Spanish attached were sent to the same email lists used for sending out the Notices of Hearing for the February 2022 public hearing conducted by the Department. Emails with attached Notices in English and in Spanish were sent to EPA Region 6, Erica LeDoux, and Mary Layton at EPA. The Department's Notices in English and Spanish were also sent to Lincoln National Forest and Smokey Bear Ranger District; Christina Thompson, Camille Howes, Travis Moseley and Andres Bolanos. The Department also emailed the Notices in English and Spanish to the Village Clerk of Ruidoso, the Village of Capitan Clerk, the Lincoln County Clerk, the Mescalero Apache Tribe, and the Ruidoso Downs contact. NMED EIB Exhibit 1 at 5-6; NMED EIB Exhibit 8.

56. The EIB hearing was held October 18, 20 and 21, 2022 by hybrid format ("EIB Hearing"). The EIB Hearing Officer, Board members, the parties and interested members of the public appeared virtually in the WebEx platform.

57. The Board held a special meeting on October 18, 2022 prior to presentation of testimony for the purpose of addressing two motions filed by Alto CEP requesting relief that would have been dispositive of the matter. Those motions were denied by the Board and the EIB Hearing proceeded as scheduled. The Board deliberation and decisions on the Alto CEP motions are set out in the transcript of the EIB Hearing. Tr. 20-173.

CONCLUSIONS OF LAW

1. The Application is subject to the Act, NMSA 1978, §§ 74-2-1 through 74-2-17, and the Board's pre-construction permit regulations, 20.2.72 NMAC.

2. Roper Construction's Application complied with the administrative application requirements of the Act and 20.2.72 NMAC.

3. NMED met all technical and administrative requirements in the Act and in 20.2.72

NMAC.

4. Roper Construction substantially complied with public notice requirements of 20.2.72.203 NMAC related to the NMED Hearing as determined by the Board at its October 18, 2022 special meeting.

5. NMED met all public notice requirements of 20.2.72 NMAC and 20.1.4 NMAC for the EIB Hearing.

6. Roper Construction has the burden of demonstrating that the Deputy Secretary's decision was not supported by the substantial evidence in the record is arbitrary and capricious or in accordance with law, and that the Application should be approved, and the permit issued.

7. If Roper Construction makes a prima facie showing that the Deputy Secretary's denial should be reversed, Alto CEP has the burden to show that the relief requested in the Petition should not be granted, and the denial upheld.

8. The Board has jurisdiction over this proceeding and has authority to sustain, modify or reverse the Department's action in this matter. NMSA 1978, § 74-2-7(H)-(L).

Respectfully Submitted,

/s/ Richard L.C. Virtue
Richard L. C. Virtue, Hearing Officer