STATE OF NEW MEXICO
BEFORE THE SECRETARY OF THE ENVIRONMENT

IN THE MATTER OF THE APPLICATION
OF ROPER CONSTRUCTION INC. **ABQ 21-57(P)**
FOR AN AIR QUALITY PERMIT
NO. 9295, ALTO CONCRETE BATCH PLANT

ROPER CONSTRUCTION, INC.'S
STATEMENT OF INTENT TO PRESENT TECHNICAL TESTIMONY

Roper Construction, Inc. ("Roper"), pursuant to 20.1.4.300 NMAC and the December 2, 2021 Scheduling Order, submits this Statement of Intent to Present Technical Testimony for the February 9, 2022, public hearing on Air Quality Permit Number 9295.

1. **The name of the person filing the statement.**

   Roper Construction, Inc.

2. **State whether the person filing the statement supports or opposes the draft permit.**

   Roper supports the draft permit.

3. **Identify each witness, including the name, address, affiliation(s), and educational and work background.**

   Roper expects to offer the following technical witness at the hearing:

   Paul Wade
   Montrose Air Quality Services
   3500 Comanche Road NE
   Albuquerque, New Mexico 87107

Mr. Wade's qualifications and background are described in detail in Exhibit 1 to this Statement. In addition, Roper may call other witnesses in response to questions raised during the hearing or as rebuttal witnesses.

4. Estimate the length of the direct testimony of each witness.

Mr. Wade's direct testimony is expected to take approximately 30 minutes.

5. Identify all exhibits which are part of the Record Proper and, for exhibits not part of the Record Proper, attach a copy.

Exhibit Description	Bates Number
Exhibit 1 – Paul Wade Resume	Roper – Air 00001
Exhibit 2 – Paul Wade Direct Testimony	Roper – Air 00002 - 000025

6. List all technical materials relied upon by each witness in making statement of technical of fact or opinion contained in his or her direct testimony.

- Roper Air Permit Application
- Environmental Protection Agency's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition (AP-42 Emission Factors)
- Equipment Manufacturer's Specifications Including:
    - WAM Silotop Zero Venting Filters (Baghouse)
- New Mexico Modeling Guidance
- US EPA Guidance on Air Quality Models

7. Attach the full direct testimony of each technical witness

A copy of Mr. Wade's written direct testimony is attached to this statement as Exhibit 2.

Respectfully submitted,

MONTGOMERY & ANDREWS, P.A.

By: /s/ *Louis W. Rose*

Louis W. Rose
Kristen J. Burby
Post Office Box 2307
Santa Fe, New Mexico 87504-2307
(505) 982-3873
lrose@montand.com
kburby@montand.com

Attorneys for Applicant Roper Construction

CERTIFICATE OF SERVICE

I hereby certify that on January 19, 2022, a true copy of the foregoing ***Roper Construction Inc.'s Statement of Intent to Present Technical Testimony*** was served via electronic mail to the following:

Chris Vigil
Assistant General Counsel
ChristopherJ.Vigil@state.nm.us

Attorney for New Mexico Environment Department

Thomas M. Hnasko
Julie A. Sakura
Dioscoro "Andy" Blanco
thnasko@hinklelawfirm.com
jsakura@hinklelawfirm.com
dblanco@hinklelawfirm.com

Attorneys for The Ranches of Sonterra Homeowners Association and Don R. and Kathleen Weems

/s/ Louis W. Rose
Louis W. Rose

MONTROSE
AIR QUALITY SERVICES

Albuquerque Office
3500 Comanche Rd NE
Building G
Albuquerque, NM 87107

T: 505-830-9680
F: 505-830-9678
Pwade@montrose-env.com
www.montrose-env.com

PAUL WADE
SENIOR PROJECT ENGINEER

EDUCATION:

- B.S. Mechanical Engineering, University of New Mexico
- B.S. Industrial Arts, University of Northern Arizona
- E.I.T State of New Mexico
- AERMOD and CalPuff Dispersion Modeling Courses
- Method 9 - Visible Opacity Certified
- Mine Safety and Health Administration (MSHA) Part 48 Certified

EXPERTISE:

- Air Quality/Meteorological Monitoring Studies
- Dispersion Modeling
- Emission Inventories
- Regulatory Analysis and Minor Source, Major Source and Title V Permitting
- Method 9 - Visible Opacity Determinations
- Data Acquisition, Reduction and Dispersion Analysis Hardware and Software
- Environmental Compliance Audit

Mr. Wade has over 27 years experience in air quality permitting, dispersion modeling, Method 9 visible emissions determination and data acquisition, analysis and reporting.

PROFESSIONAL EXPERIENCE

- Principal/Senior Project Manager, Montrose Air Quality Services, Inc., Albuquerque, NM 2014 – present
  Responsibilities include providing consultation for support of new NRS and Title V permits, modification of existing NSR permits, relocation support, compliance assessment, and facility site selection.

  Other duties include preparing emission inventories and permit applications for mineral processing facilities, coal and gas fired electrical generation stations, and other industries.

- Senior Engineer, Class One Technical Services, Inc., Albuquerque, NM 1994 – 2014
  Responsibilities included providing consultation for support of new NRS and Title V permits, modification of existing NSR permits, relocation support, compliance assessment, and facility site selection.

  Other duties include preparing emission inventories and permit applications for surface coal mining operations, mineral processing facilities, coal and gas fired electrical generation stations, electronic manufacturing facilities, and other industries.

- Mechanical Engineer, BDM Federal, Inc., Albuquerque, NM, October 1993 – February 1994
  Responsibilities included the redesign of defense related equipment. This included the redesign of parts and related mechanic drawings, and structural analysis of materials.

- Technical Services Co-op Engineer, Ethicon, Inc., Albuquerque, NM, January 1991 – August 1991
  Responsibilities included designing and coordinating projects that supported and improved production at the Albuquerque plant.

- Construction Foreman, Living Systems, Albuquerque, NM, August 1987 – August 1988
  Responsibilities included supervising up to five workers, coordinating subcontractors, and managing inventory of materials for daily operations.

STATE OF NEW MEXICO
BEFORE THE SECRETARY OF THE ENVIRONMENT

IN THE MATTER OF THE APPLICATION
OF ROPER CONSTRUCTION, INC.
FOR AN AIR QUALITY PERMIT,
PERMIT NO. 9295, ALTO CONCRETE BATCH PLANT **No. AQB 21-57(P)**

DIRECT TESTIMONY OF PAUL WADE, MONTROSE AIR QUALITY SERVICES, LLC ON BEHALF OF ROPER CONSTRUCTION, INC.

January 19, 2022

Exhibit 2

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Paul Wade. My business address is 3500G Comanche Road Northeast, Albuquerque, New Mexico 87107.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING DIRECT TESTIMONY?

A. I am submitting this direct testimony on behalf of Roper Construction Incorporated. ("Roper")

Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?

A. I am employed by Montrose Air Quality Services, LLC ("Montrose"), which is an environmental consulting firm. My position is Principal and Senior Project Manager.

Q. WHAT ARE YOUR RESPONSIBILITIES AS A SENIOR PROJECT MANAGER?

A. My responsibilities include providing consultation and support for major and minor New Source Review ("NSR") and Title V air quality permits, revisions of existing permits, compliance assessments, and facility site selection.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL EXPERIENCE.

A. I have a Bachelor of Science in mechanical engineering from the University of New Mexico, and over 27 years of experience working with air quality issues. I have successfully prepared more than one hundred air quality permit applications for both minor and major air quality sources in New Mexico, including a number of applications for concrete batch plants.

Q. WHAT WAS YOUR INVOLVMENT IN THE AIR PERMIT APPLICATION?

A. I prepared Roper's NSR Minor Source Air Quality Permit Application ("Application") in accordance with the applicable regulations and guidance, and responded to questions

from the New Mexico Environment Department's Air Quality Bureau ("Bureau") staff concerning the application. I was responsible for completing the applicant's public notice and conducting the air quality dispersion modeling for the permit application.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to explain the permit application, including air quality dispersion modeling, which provides the technical bases for NMED's approval of the Application under 20.2.72 NMAC.

III. FACILITY DESCRIPTION

Q. WHERE IS THE FACILITY TO BE LOCATED?

A. The Facility is to be located 0.35 miles east of the intersection of Highways 48 and 220, north of Ruidoso, New Mexico at 135 NM Highway 220.

Q. CAN YOU PLEASE DESCRIBE THE CONCRETE BATCH PLANT FACILITY?

A. The Concrete Batch Plant Facility ("Facility") will consist of a 125 cubic yard per hour batch plant. Equipment, which is more specifically described in the permit application, will include: aggregate and sand storage piles, a feeder hopper with conveyor, 4-bin cold aggregate bin, aggregate weigh batcher with conveyor, cement/fly ash split silo with baghouse, cement/fly ash weigh batcher with baghouse, concrete mixer truck loading area with baghouse, and three natural gas hot water heaters. The plant will be powered by commercial line power. Processed concrete will be transported for off-site sales. Haul roads around the facility will be paved and maintained to reduce particulate emissions. The equipment is listed in full in the Air Permit Application Tables 2-A, 2-B and 2-C as well as in Table 3-1 below.

Q. WILL THERE BE ANY AIR POLLUTION CONTROL EQUIPMENT ASSOCIATED WITH THE FACILITY?

A. Yes. There will be multiple pieces of control equipment that are listed out in the Application. The control equipment includes baghouses for loading the cement and fly ash split silo, loading the cement/fly ash batcher, and loading the concrete trucks. The control equipment is listed in the Air Permit Application Table 2-C and in Table 3-1 below.

Q. WILL THERE BE ANY OTHER CONTROL MEASURES IN PLACE?

A. Yes. There will be additional moisture content added to the aggregate piles and/or a wet dust suppression system installed at the feeder hopper loadout to feeder hopper conveyor. The haul roads around the facility will be paved and maintained to reduce particulate emissions.

Table 3-1 Facility Sources and Control Equipment

Unit No.	Source Description	Control Device	Permitted Capacity
1	Haul Road		305 trips/day
2	Feeder Hopper		187.5 tph
3	Feeder Hopper Conveyor	3b – Wet Dust Suppression System, Controlling PM10 and PM2.5	187.5 tph
4	Overhead Aggregate Bins (4)	4b – Wet Dust Suppression System, Controlling PM10 and PM2.5	187.5 tph
5	Aggregate Weigh Batcher	5b – Wet Dust Suppression System, Controlling PM10 and PM2.5	187.5 tph

Unit No.	Source Description	Control Device	Permitted Capacity
6	Aggregate Weigh Conveyor	6b – Wet Dust Suppression System, Controlling PM10 and PM2.5	187.5 tph
7	Truck Loading with Baghouse	7b – Baghouse Controlling PM10 and PM2.5	125 cubic yards per hour
8	Cement/Fly Ash Weigh Batcher		38.8 tph
9	Cement/Fly Ash Split Silo	9b – Baghouse Controlling PM10 and PM2.5	30.6 tph
10	Fly Ash Split Silo	10b – Baghouse Controlling PM10 and PM2.5	8.25 tph
11	Aggregate/Sand Storage Piles		187.5 tph
12, 13, 14	Concrete Batch Plant Heaters (3 in total)		0.6 MMBtu/hr (total)

IV. NSR PERMIT APPLICATION

Q. WHEN WAS THE PERMIT APPLICATION SUBMITTED?

A. The Application was submitted to the Bureau on June 14, 2021. The Bureau determined that the Application was administratively complete on July 22, 2021.

Q. WHAT WAS INCLUDED IN THE PERMIT APPLICATION?

A. The Application included the completed most recent application forms provided by the Bureau, calculations and computations that estimate the maximum quantities of regulated air contaminants the Facility emission sources will emit through maximum operations after construction is completed and the basis for pollution control efficiencies. I also estimated maximum potential emissions during equipment malfunction, startup, and shutdown, as required by 20.2.72.203 NMAC.

Q. WHAT METHODOLOGY DID YOU USE TO DETERMINE THE POTENTIAL EMISSION RATE FOR THIS APPLICATION?

A. Regulated pollutant emission rates were calculated at maximum requested production and operational hours using EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition (EPA AP-42) for concrete batch plants. The emissions factors and equations are accepted by the Bureau as appropriate for this type of facility. The factors and equations were developed and compiled by EPA from source test data, material balance studies, and engineering estimates for similar air pollution sources. Emissions factors and equations are representative values that attempt to relate the quantity of a pollutant released to the ambient air with an activity associated with the release of that pollutant.

Q. IS THERE ANYTHING THE APPLICANT PROPOSES TO REDUCE POTENTIAL EMISSIONS?

A. Yes, the Facility will be powered by commercial line power, instead of diesel-fired generators. This alone will result in significant reduction in nitrogen dioxide and carbon monoxide emissions from a generator. High efficiency baghouses will be used to control particulate emissions from loading the cement and fly ash split silo, loading the cement/fly ash batcher, and loading the concrete trucks. Wet dust suppression will be used to control fugitive dust (particulate) emissions during aggregate and sand processing from the feeder hopper to truck loading. Additionally, the haul road in the facility will be paved, therefore, reducing the fugitive dust (particulate) emissions by truck traffic.

Q. CAN YOU PLEASE DESCRIBE HOW AN EMISSION RATE IS CALCULATED THAT INCORPORATES ADDITIONAL MOISTURE CONTENT?

A. For each point of material handling, loading storage piles, loading feeder hopper, feeder hopper unloading, aggregate bin loading, and bin loading to batcher conveyor, emission factors were used to calculate the appropriate emission rates. For those calculations, some include the addition of water to increase the moisture content of the aggregate. Based on AP-42 estimates (AP-42 Section 11.12, Table 11.12-2, footnote b), sand has an inherent moisture content of 4.17% and aggregate 1.77%. These inherent moisture contents were used in the emission equation for loading the storage piles and loading the feeder hopper and does not include any additional controls.

For feeder hopper unloading, aggregate bin loading, and bin loading to batcher conveyor, emission factors from AP-42 11.19.2 were used. AP-42 has two emission factors in that section for each type of emission source, uncontrolled and controlled. Since these sources are conveyor transfer points (either loading conveyor or unloading conveyor) and are not a crusher or screen, the conveyor transfer points emission factor was used. According to footnote b in Table 11.19.2-2 the difference between uncontrolled and controlled is maintaining or increasing a moisture content, in this case a higher moisture content of greater than 2.88%.

That footnote reads as follows:

> Controlled sources (with wet suppression) are those that are part of the processing plant that employs current wet suppression technology similar to the study group. The moisture content of the study group without wet suppression systems operating (uncontrolled) ranged from 0.21 to 1.3 percent, and the same facilities operating wet suppression systems (controlled) ranged from 0.55 to 2.88 percent. Due to carry over of the small amount of moisture required, it has been shown that each source, with the exception of crushers, does not need to employ direct water sprays. Although the moisture content was the only variable measured, other process features may have as much influence on emissions from a given source. Visual observations from each source under normal operating conditions are probably the best indicator of which emission factor is most

> appropriate. Plants that employ substandard control measures as indicated by visual observations should use the uncontrolled factor with an appropriate control efficiency that best reflects the effectiveness of the controls employed.

AP-42, Table 11-19.2-2, n. b.

I used the controlled emission factors and stated in the application a wet suppression system would be added and used as needed to reduce visible emissions. As suggested in the AP-42 footnote, a small amount of carry over moisture can control emissions. This can include additional moisture added to the storage piles as listed as one of the conditions in the draft permit, or water sprays located at the exit of the feeder hopper-to-feeder hopper conveyor. The methodology proposed by NMED in the draft permit in condition A502 states that if visible emissions are seen, one of the proposed control measures will be used to reduce the visible emissions.

Q. FOR THIS TYPE OF MATERIAL, DO YOU EXPECT A LOT OF VISIBLE EMISSIONS?

A. No, generally for this type of material, washed sand and processed aggregate rock, the amount of fine particulate in the material is low. Therefore, there is a very low chance of visible emissions with small amounts of increased moisture content.

Q. WERE THERE ANY REVISIONS MADE TO THE APPLICATION?

A. Yes, during the Bureau's review of the Application, several revisions were made. This is typical during the permit application review process. The Bureau Permit Writer would ask me questions about the Application, which I would answer. Depending on the questions, answers, and concerns raised by the Permit Writer, I would submit a revised section of the Application to clarify or explain the information in the Application.

V. AIR MODELING DEMONSTRATES COMPLIANCE WITH APPLICABLE REGULATIONS

Q. WAS THERE ANY MODELING COMPLETED FOR THE APPLICATION?

A. Yes, I prepared air quality dispersion modeling for the Application following a dispersion model protocol submitted to the Bureau on April 29, 2021.

Q. CAN YOU PLEASE DESCRIBE WHAT TYPE OF MODELING YOU DID FOR THE APPLICATION?

A. To show compliance with applicable ambient air quality standards and PSD increments and in accordance with 20.2.72.203.A(4) NMAC, I conducted a dispersion modeling analysis using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model ("AERMOD"), Version 19191, which is recommended by EPA for determining Class II impacts within 50 km of the source being assessed. The modeling was conducted in conformance with the New Mexico Air Quality Bureau "Air Dispersion Modeling Guidelines" (Revised 10/26/2020) and the most up to date US EPA Guideline on Air Quality Models. Since the Facility is a minor source for NSR permitting and is located in Air Quality Control Region (AQCR) 153, where the minor source baseline date has been triggered for NO2 (08/02/1995) and PM10 (06/16/2000), I performed a PSD Class I and II Increment analysis. The objective of this evaluation was to determine whether ambient air concentrations of nitrogen dioxide, (NO2), carbon monoxide (CO), sulfur dioxide (SO2), and particulate matter; both 10 microns or less (PM10) and 2.5 microns or less (PM2.5); are below federal and state ambient air quality standards (NAAQS and NMAAQS) found in 40 C.F.R. part 50 and the New Mexico's air quality regulation 20.2.3 NMAC, when the impacts of the

facility operating at maximum capacity are considered. I did not complete any modeling for ozone. Modeling for ozone is not required because this is not a PSD permit and this is not a major source of VOCs or NOx.

Q. IN YOUR MODELING, DID YOU MODEL THE EQUIPMENT WITH THE CONTROL DEVICES DESCRIBED IN THE DRAFT PERMIT?

A. Yes, I modeled the Facility as it is permitted. This means the modeling accounted for the control equipment that is described in the Air Permit Application. The only control I did not include in my modeling was for adding moisture to the aggregate piles or loading of the feeder hopper. The option of adding moisture to the Unit 11 Aggregate piles would act as a control on the feeder hopper loading. NMED added a condition in the draft permit in A502 that moisture could be added to the aggregate piles or a wet suppression system if visible emissions are observed. The impact of this additional moisture at the storage piles was not modeled, therefore I would expect the emissions for loading the feeder hopper to be lower than what was modeled.

Q. WHAT IS THE PURPOSE OF CALCULATING UNCONTROLLED EMISSIONS IF YOU DO NOT MODEL THEM AND THE PERMITTEE IS PROHIBITED FROM OPERATING WITHOUT CONTROLS?

A. Calculating the uncontrolled emissions for the Facility serve to help determine applicability of certain regulations, such as what type of air permit is required for the facility.

Q. DID THE BUREAU REVIEW THE MODELING COMPLETED FOR THE APPLICATION?

A. Yes, the Bureau reviewed the modeling and performed its own modeling analysis. The Bureau issued a modeling report on July 30, 2021. On August 3, 2021, the Bureau updated its modeling report to incorporate revised heater stack descriptions. After the Bureau's review, they determined that the facility will not cause or contribute to any exceedances of applicable air quality standards or PSD Class I and Class II increments for NO2 and PM10.

Q. HOW WILL THESE EMISSIONS GENERALLY DISPERSE AROUND THE FACILITY?

A. These types of facilities are low release (short exhaust stacks) or ground release (material handling and haul roads) emission sources, which produce the highest pollutant ambient air quality concentrations at or near the Facility boundary. As the plume travels downwind from the emission source to any public receptors, dispersion of the plume produces lower concentrations from the Facility pollutants. The further away from the Facility to any public receptors, the lower the impact from the Facility pollutants on ambient air.

Initial modeling was performed for Roper's emission sources only to determine if any criteria pollutant and averaging period would exceed the NMED significant ambient concentrations found in 20.2.72.500 NMAC and EPA designated significant impact levels (SILs).

Results of the initial modeling determined that CO 1- and 8-hour, NO2 annual average, and SO2 1-, 3-, 24-hour and annual average periods were below the applicable SILs, so no further refined or PSD modeling were performed.

For NO2 1-hour, PM10 24-hour, and PM2.5 24-hour and annual average periods, I performed refined modeling with Roper sources, applicable neighboring sources, and applicable background concentrations. Additionally, I performed PSD modeling for PM10 24-hour and annual average periods. Neighboring sources were obtained from the NMED Modeling Section and inclusion was determined by following the NMED Modeling Guidelines. Following the NMED Modeling Guidelines, refined modeling results for NO2 1-hour, PM10 24-hour, and PM2.5 24-hour and annual average periods showed no exceedance of the NMAAQS or NAAQS. PSD Class II increment modeling was performed for PM10 24-hour and annual averaging periods with applicable neighboring increment consuming sources. The highest modeled concentrations for all criteria pollutants and averaging periods were determined to be on the Roper fenceline boundary.

For NO2 1-hour modeling, the contribution from Roper emission sources dropped below the NO2 1-hour SIL within 590 feet or 0.11 miles from the Roper fenceline boundary. For PM10 24-hour modeling, the contribution from Roper emission sources dropped below the PM10 24-hour SIL within 1400 feet or 0.27 miles from the Roper fenceline boundary. For PSD Class II PM10 annual modeling, the contribution from Roper emission sources dropped below the PM10 annual SIL within 410 feet or 0.08 miles from the Roper fenceline boundary. For PM2.5 24-hour modeling, the contribution from Roper emission sources dropped below the PM2.5 24-hour SIL within 525 feet or 0.10 miles from the Roper fenceline boundary. For PM2.5 annual modeling, the contribution from Roper emission sources dropped below the PM2.5 annual SIL within 405 feet or 0.08 miles from the Roper fenceline boundary.

Q. CAN YOU FURTHER EXPLAIN WHAT A SIL OR SIGNIFICANT IMPACT LEVEL IS?

Yes. The SILs are defined by the EPA as concentrations of criteria pollutants in the ambient air that are considered inconsequential in comparison to the National Ambient Air Quality Standards (NAAQS). If initial modeling shows that Roper's source contribution to ambient air for any criteria pollutant or averaging period is below the SIL, then the source does not cause or contribute to a violation of the NAAQS. Further, if a source is below the SILs, then no further modeling is required for that criteria pollutant or averaging period. In New Mexico, SILs are referred to as Significant Ambient Concentrations. The SILs for New Mexico can be found in Table 1 of 20.2.72.500 NMAC. The New Mexico SILs are identical to the Federal SILs, however the Federal SILs also include additional impact levels for 1-hour NOx, PM2.5 and 1-hour SO2.

Q. DOES THE MODELING ANALYSIS ACCURATELY INCLUDE WHAT WILL BE EMITTED BY THE FACILITY?

A. Air Quality Modeling is premised on the concept that the worst-case emissions, worst-case meteorology, and maximum operations are modeled. This means that when I am working on the model, I assume the maximum operations of all of the equipment at the worst-case meteorology. Worst-case meteorology is that which is likely to have the biggest impact on air quality. For this modeling exercise, 5 years of representative meteorological data from Holloman Air Force Base (2016 – 2020) was used and is assumed to consist of the worst-case meteorology for the Facility site. By doing the modeling in this way, it creates an overly conservative estimate of pollutant

concentrations. This helps build in a margin of safety to the modeling. Therefore, the results of modeling overstate the potential impacts of the emissions from the facility.

Q. DO THE MODELING RESULTS SHOW A POTENTIAL FOR AMBIENT AIR QUALITY CONCERNS?

A. No, if the Facility complies with the current draft permit, emissions will not cause or contribute to any concentrations above the NMAAQS or the NAAQS.

VI. THE FACILITY'S PERMIT DEMONSTRATES COMPLIANCE WITH APPLICABLE REGULATIONS

Q. WILL THE ROPER FACILITY COMPLY WITH ALL APPLICABLE AIR QUALITY REGULATIONS AND AMBIENT AIR QUALITY STANDARDS?

A. Yes, it is my professional opinion that the Roper Facility, as proposed, will comply with all applicable air quality regulations.

Q. WHAT ARE THE APPLICABLE REGULATIONS FOR THE FACILITY AND HOW WILL THEY DEMONSTRATE COMPLIANCE WITH EACH ONE?

A. The Facility will be subject to several air quality regulations. The following list identifies the applicable regulations and how the Facility will comply with each one:

- 20.2.1 NMAC General Provisions for the entire facility. The regulation establishes general provisions that apply to all Parts of Chapter 2. These include: the appropriate significant figures to be used in calculations and electronic reporting and permit applications.
  - Roper will meet all required general provisions found in this regulation.
  - When available, Roper has submitted all documents electronically to NMED with the exception of the original signed and notarized application.

- Appropriate use of significant figures is demonstrated in Section 7 of the Air Permit Application.

- 20.2.3 NMAC Ambient Air Quality Standards for the entire facility. The regulation sets ambient air quality standards for New Mexico (NMAAQS).
  - Roper showed compliance with the New Mexico ambient air quality standards (NMAAQS) with the dispersion modeling analysis submitted with the permit application.
  - Specifically, Roper has shown compliance with NMAAQS for NO2, CO, and SO2 whose standards are set by 20.2.3.110 through .111 NMAC.
- 20.2.7 NMAC Excess Emissions Procedures for the entire facility. The regulation establishes reporting and corrective action requirements for emissions in excess of an emission regulation or emission requirements of a permit.
  - Roper will notify the Bureau if there are excess emissions following the procedures spelled out in 20.2.7 NMAC.
- 20.2.61 NMAC Smoke and Visible Emissions. The regulation requires an owner or operator of a stationary combustion source to limit opacity to no more than 20% as determined by EPA Method 9. Compliance with the regulation assures proper combustion is taking place.
  - Roper will meet the requirements of this regulation by complying with permit condition A111.
  - Condition A111 applies to Units 12, 13, and 14. These units are the Concrete Batch Plant Heaters.

- The heaters themselves meet this requirement by combusting pipeline quality natural gas. Use of this fuel constitutes compliance with 20.2.61 NMAC. You would not expect a combustion byproduct of pipeline quality natural gas to exceed 20% opacity.

- 20.2.72 NMAC for the entire facility. The regulation lists requirements for obtaining a construction permit for the entire facility. The regulation requires an owner or operator intending to construct a facility with a potential emission rate greater that 25 tons per year or 10 pounds per hour, to obtain a permit from NMED prior to beginning construction.
  - Roper meets the requirement of the regulation with the submitted application.
- 20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements for the entire facility. The regulation requires an owner or operator of a facility with a potential emission rate greater that 10 tons per year to give NMED notice prior to beginning construction.
  - Roper meets the requirement of the regulation with the submitted application. The application includes the information required by this regulation.
- 20 2.75 NMAC Construction Permit Fees for the entire facility. This regulation sets requirements for fees for construction permitting actions.
  - Roper meets the requirement of the regulation through the payment of permit fees.

- 20.2.80 NMAC Stack Heights for new sources. This regulation states that NMED shall give no credit for reductions in emissions due to the length of a source's stack height that exceeds good engineering practice or due to any other dispersion technique.
  - Roper is not taking credit for reductions in emissions due to the length of a source's stack height that exceeds good engineering practice or due to any other dispersion technique within the dispersion modeling analysis.
- 40 C.F.R. 50 National Ambient Air Quality Standards for the entire facility. The regulation specifies NAAQS for NO2, CO, PM10, PM2.5, SO2, and ozone.
  - Roper showed compliance with the applicable NAAQS with the NMED required dispersion modeling analysis submitted with the permit application.

Q. WILL THE FACILITY OPERATIONS RESULT IN AN EXCEEDANCE OF ANY PREVENTION OF SIGNIFICANT DETERIORATION ("PSD") INCREMENTS?

A. No, if the Facility operates in compliance with the terms and conditions of the draft permit, there will be no exceedance of applicable PSD increment levels. For the Facility's air quality control region (AQCR 153), both NO2 annual average and PM10 24-hour and annual averaging periods the PSD baseline date have been triggered for minor sources. The trigger date for PM10 is August 7, 1977, and for NO2, February 8, 1988. 20.2.74.7(AI)(1) NMAC. A PSD increment is the maximum allowable increase in concentration that is allowed to occur above a baseline concentration for a pollutant, when the baseline concentration is better than the applicable NAAQS. 40 C.F.R. § 51.166(c). PSD increment modeling was performed for both Class I and Class II areas.

The modeling showed that no PSD increments would be exceeded. For NO2 Class I and Class II increment modeling, the results from Facility sources were below the applicable PSD significate levels. For PM10 Class I and Class II increment modeling, the results show Class I PM10 annual concentration was below the PSD increment significant level; Class I PM10 24-hour concentration was 8% of the increment limit; Class II PM10 annual concentration was 70% of the increment limit; and Class II PM10 24-hour concentration was 99.3% of the increment limit. NMED reviewed my conclusion and came to the same results. They discuss this in their August 3, 2021- Revised Modeling Review.

Q. CAN YOU FURTHER EXPLAIN WHAT PSD INCREMENTS ARE?

A. Yes. PSD increments specify the allowable ambient air quality concentration increases for a specific pollutant that may occur over a baseline or "floor" concentration level for a certain area. PSD increments apply in areas where the baseline concentration is below applicable ambient air quality standards. Thus, a PSD increment specifies the maximum allowable emissions increase for a certain pollutant in an area from all sources. Therefore, when an increment has been entirely consumed, construction and major modifications of sources is severely limited for that area.

PSD increments have not been established for all of the criteria pollutants. For the location of the Roper Facility, only NO2 and PM10 increments have been "triggered" for purposes of a PSD increments analysis. A triggered pollutant is one where after a preset baseline date, the PSD increment begins to be consumed. Trigger dates are specified in 20.2.74.7(AI)(1) NMAC. Once a baseline date has been triggered, all future sources begin to consume the available PSD increment.

The ambient air concentration of a covered pollutant at the baseline date sets the "floor" for an increment calculation. After this point, an applicant must demonstrate that their proposed source or modification will not consume the remaining available increment when combined with existing minor and major increment consuming sources.

Q. DO PSD INCREMENTS APPLY EVEN IN ATTAINMENT AREAS?

A. Yes, PSD applies to areas that meet standards and are designated in attainment. If an area is in non-attainment different procedures apply. The PSD program is designed to prevent significant deterioration of air quality beyond current conditions. Therefore, the PSD increment regulations are even more protective than the NAAQS because they preserve air quality at levels below the NAAQS.

Q. DOES THE PSD INCREMENT ANALYSIS CHANGE NEAR SENSITIVE AREAS?

A. Yes. When a proposed source is near a Class I area, there are additional evaluations that must be done. A Class I area has been defined by EPA as an "area of special national or regional natural, scenic, recreational, or historic value" EPA Draft NSR Workshop Manual, at E.1, 1990; *see also* 20.2.74.108 NMAC. When a proposed site is near a Class I area, there are stricter PSD increments that must be met. The stricter increments are required to protect that special value that is provided by a Class I area. The increments become less strict as an area is designated Class II or Class III. However, even though the increments become less strict, they remain more protective than NAAQS as described above.

Q. CAN YOU DEMONSTRATE THAT THE FACILITY WILL COMPLIES WITH ALL PSD INCREMENTS, SILS AND APPLICABLE AIR QUALITY STANDARDS?

A. Yes, the modeling and calculation of emission rates demonstrates this. I have also put together Table 6-1 below that clearly lays this out:

Table 6-1: Facility Standards and Contributions

Pollutant	Model Averaging Period	Facility Contribution (ug/m3)	Cumulative Contribution (ug/m3)	Ambient Standard (ug/m3)[1]	% of Ambient Standard[2]	SIL (ug/m3)[3]	PSD Increment (ug/m3)
NO2	Annual	0.87	-	94.0	SIL – 87%	1.0	-
NO2	1-Hour	20.8	59.5	188.03	NAAQS – 31.6%	7.52	-
PSD Class I NO2	Annual	0.0046	-	-	SIL – 4.6%	0.1	2.5
PSD Class II NO2	Annual	0.87	-	-	SIL – 87%	1.0	25
CO	8-Hour	12.8	-	9960.1	SIL – 2.6%	500	-
CO	1-Hour	50.5	-	14997.5	SIL – 2.5%	2000	-
SO2	Annual	0.01	-	52.4	SIL – 1.0%	1.0	2
SO2	24-Hour	0.07	-	261.9	SIL – 1.4%	5.0	5
SO2	3-Hour	0.24	-	1309.3	SIL – 1.0%	25.0	25
SO2	1-Hour	0.64	-	196.4	SIL – 8.2%	7.8	-
PM 2.5	Annual	2.01	7.25	12.0	NAAQS – 60.4%	0.2	1
PM 2.5	24-Hour	3.9	19.0	35.0	NAAQS – 54.3%	1.2	2
PM 10	24-Hour	29.7	124.6	150.0	NAAQS – 83.1%	5.0	-
PSD Class I PM10	24-Hour	0.23	0.64	-	Increment – 8.0%	0.3	8
PSD Class I PM10	Annual	0.018	-	-	SIL – 9.0%	0.2	4
PSD Class II PM10	24-Hour	29.7	29.8	-	Increment – 99.3%	5.0	30
PSD Class II PM10	Annual	11.8	11.9	-	Increment – 70.0%	1.0	17

[1] Lowest Applicable Standard for either New Mexico Ambient Air Quality Standards or EPA National Ambient Air Quality Standards.
[2] Percentage of most conservative, applicable ambient standard
[3] NMED refers to this as a "Significance Level"

Q. IF THE FACILITY COMPLIES WITH THE PRESENT DRAFT PERMIT WILL THERE BE ANY CONTRIBUTION TO CONCENTRATIONS ABOVE THE STATE OR FEDERAL AMBIENT AIR QUALITY STANDARDS?

A. No, if the Facility operates in compliance with the terms and conditions of the current draft permit, then it will not cause or contribute to any concentrations above the state or federal ambient air quality standards.

VII. BUREAU PROPOSED CONDITIONS

Q. DOES THE PERMIT CONTAIN ANY CONDITIONS PROPOSED BY THE BUREAU?

A. Yes, the draft permit includes conditions proposed by the Bureau that ensure the Facility emissions and ambient air quality impacts will not be exceeded by specifying what equipment is authorized to be installed and operated. The draft permit includes emission limits or control requirements for each emission source, methods for determining compliance, and monitoring, recordkeeping, and reporting requirements to ensure and verify compliance with the requirements of the permit. Table 7-1 below lists the Facility operations and equipment and the associated permit conditions.

Table 7-1: Permit Conditions

Unit No.	Permit Conditions			
	Requirement	**Monitoring**	**Recordkeeping**	**Reporting**
1	A112A, A112B, A112C	A112A, A112B, A112C	A112A, A112B, A112C	A112A, A112B, A112C
2	A502B	A502B	A502B	A502B
3	A502A, A502B	A502A, A502B	A502A, A502B	A502A, A502B
4	A502A, A502B	A502A, A502B	A502A, A502B	A502A, A502B
5	A502A, A502B	A502A, A502B	A502A, A502B	A502A, A502B
6	A502A, A502B	A502A, A502B	A502A, A502B	A502A, A502B
7	A503B, A503C	A503B, A503C	A503B, A503C	A503B, A503C
8	A503B, A503C	A503B, A503C	A503B, A503C	A503B, A503C
9	A503B, A503C, A503D	A503B, A503C, A503D	A503B, A503C, A503D	A503B, A503C, A503D
10	A503A, A503C, A503D	A503A, A503C, A503D	A503A, A503C, A503D	A503A, A503C, A503D
11	A503A, A503C, A503D	A503A, A503C, A503D	A503A, A503C, A503D	A503A, A503C, A503D
12,13,14	A111A	A111A	A111A	A111A
Allowable Emissions	Table 106A	Table 106A	Table 106A	Table 106A
Hour of Operation	A108A	A108A	A108A	A108A
Plant Throughput	A108B	A108B	A108B	A108B
Fuel Sulfur Content	A110A	A110A	A110A	A110A

VII. OVERALL OPINION ON FACILITY COMPLIANCE WITH APPLICABLE AIR QUALITY REGULATIONS

Q. WHAT IS YOUR OVERALL OPINION OF THE FACILITY'S COMPLIANCE WITH APPLICABLE AIR QUALITY REGULATIONS?

A. If the Facility operates in conformance with the terms and conditions of the current draft permit, it will not cause or contribute to any concentrations above the state or federal ambient air quality standards and applicable air quality emission regulations. As discussed above, a full air dispersion modeling analysis was completed for this Facility and did not show any possible exceedances of ambient air quality standards, including those standards designed to protect public health. Additionally, a full regulatory analysis was completed, and Roper demonstrated compliance with all applicable air quality regulations, state and federal.

VIII. CONCLUSION

A. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.