Environmental
Improvement Board
RECEIVED
February 20, 2026
Pamela Jones

STATE OF NEW MEXICO
BEFORE THE ENVIRONMENTAL IMPROVEMENT BOARD

IN THE MATTER OF PROPOSED REPEAL AND REPLACEMENT OF 20.2.71 NMAC – *OPERATING PERMIT EMISSIONS FEES* AND 20.2.75 NMAC – *CONSTRUCTION PERMIT FEES*

No. EIB 25-77 (R)

NOTICE OF INTENT TO PRESENT TECHNICAL TESTIMONY

Pursuant to 20.1.1.302 NMAC and the *Order Scheduling Hearing, Appointing Hearing Officer and Setting Certain Filing Dates* issued on Dec. 23, 2025, Citizens Caring for the Future, Earthworks, and New Mexico Interfaith Power and Light (Conservation Groups) submit this *Notice of Intent to Present Technical Testimony* for the hearing in this matter currently scheduled to begin March 23, 2026.

1. **Entity for whom the witness will testify:**

Each of the witnesses will testify for the Conservation Groups.

2. **Identity of witnesses:**

Conservation Groups will call the following technical witness:

   a. Dr. Tammy Thomson, an air quality expert with the Environmental Defense Fund. Her curriculum vitae is attached as Conservation Groups **Exhibit 1**. Dr. Thompson's written testimony is attached as Conservation Groups' **Exhibit 2**. The qualifications of Dr. Thompson, including a description of her educational and work background, are detailed in her CV.

3. **Copies of Direct Testimony:**

A copy of Conservation Groups' technical testimony is attached and designated as Conservation Groups' Ex. 2.

4. Conservation Groups' Recommended Modifications to the Proposed Regulatory Change

Conservation Groups do not propose modifications to the New Mexico Environment Department's proposed regulatory changes to 20.2.71 and 20.2.75 NMAC.

5. Exhibits to be offered by Conservation Groups at the hearing:

Conservation Groups identify the following exhibits:

Conservation Groups' Exhibit No.	Description
Conservation Groups' Ex. 1	Dr. Tammy Thompson's Curriculum Vitae
Conservation Groups' Ex. 2	Dr. Tammy Thompson's Technical Testimony

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on February 20, 2025, a copy of the foregoing *Entry of Appearance* was served via electronic mail on the following:

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By: /s/ Morgan O'Grady
Morgan O'Grady

Exhibit 1

TAMMY M. THOMPSON
Boulder, CO | (512) 297-9633 | tthompson@edf.org

Professional Summary
Atmospheric scientist with 20+ years of experience developing and evaluating global and regional emission inventories, integrating emissions into chemical transport and climate models, and leading projects to advance air quality science. Proven expertise in linking emissions data with ground, mobile observations, weather forecast models, air quality modeling to evaluate model fidelity and uncertainty. Recognized leader in international collaborations and science-policy translation, with extensive publication record, mentoring experience, and a strong record of delivering innovative modeling tools for research and operational applications.

Key Skills & Expertise
- **Emission Inventories**: Development and evaluation of global and regional inventories (CAMS, EDGAR, BRAIN, city-level local inventories, NEI, SMOKE, MOVES, spatial allocator, land use)
- **Modeling & Forecast Systems**: CMAQ, CAMx, GEOS-Chem, WRF-Chem, HYSPLIT, STILT, AERMOD
- **Observational Integration**: Regulatory and sensor networks, mobile campaigns, land use
- **Programming & Tools**: Python, R, Fortran, GIS, NetCDF, Unix

Professional Experience
Senior Air Quality Scientist | Environmental Defense Fund | 2019 – Present
- Lead national-scale emissions modeling projects providing fine-resolution emissions and exposure data to inform policy and environmental justice initiatives.
- Developed **Air Tracker**, a global real-time inverse modeling tool for hyper-local source identification, integrating observational data with atmospheric models.
- Evaluated **global and local emission inventories** in the Brazilian Amazon to guide air quality interventions.
- Manage over $1M in projects, mentoring junior scientists and advancing EDF's atmospheric science mission.
- Provide expert scientific support for policy and regulatory processes (e.g., state SIPs, federal NO_2 controls, wildfire emissions science, oil and gas regulation).
- Co-authored 7+ peer-reviewed articles and delivered invited talks (Harvard, Mapping Urban Air Quality Workshop).

Environmental Policy Analyst | Congressional Research Service, Library of Congress | 2018 – 2019
- Authored reports for Congress on background ozone, methane, and LNG emissions impacts.
- Responded to real-time policy inquiries on air quality and climate science.

Science & Technology Policy Fellow | American Association for the Advancement of Science | 2016 – 2018
- Reviewed global climate models for updating the Social Cost of Carbon.
- Led EPA research team evaluating ozone reduction strategies in the Northeast.
- Co-authored federal white papers on emissions inventory estimation and reactive nitrogen.

Research Scientist II | Colorado State University, Cooperative Institute for Research in the Atmosphere | 2013 – 2016
- Improved representation of the nitrogen cycle in regional CTMs.
- Investigated air quality impacts of energy development and natural gas expansion.

- Collaborated with agencies on strategies to protect air quality in National Parks.

Postdoctoral Associate | Massachusetts Institute of Technology | 2010 – 2013

- Advanced integrated assessment models linking global climate policy, emissions, and air quality co-benefits.
- Mentored graduate students on emissions modeling tools and workflows.
- Published widely on health and air quality impacts of global change.

Postdoctoral Associate | University of Texas at Austin | 2009 – 2010

- Evaluated transportation emissions scenarios and their ozone impacts in Texas.
- Partnered with city leaders to design emissions reduction strategies.

Publications

- **Thompson, T.M.** et al. "Air Tracker: Introducing scalability and accessibility to neighborhood-level air pollution source identification" In prep.
- Chen, B., **Thompson, T.M.,** & Chow, F. K. " Hyper-local source strength retrieval and apportionment of black carbon in an urban area". *Atmospheric Environment: X*, 2024, *22*, 100252. https://doi.org/10.1016/j.aeaoa.2024.100252
- Li, Q., Padilla, L., **Thompson, T.M.,** Xiao, S., Mohr, E. J., Zhou, X., Kacharava, N., Cui, Y., & Wang, C. A modeling framework to assess fenceline monitoring and self-reported upset emissions of benzene from multiple oil refineries in Texas. *Atmospheric Environment: X*, 2024, *23*, 100281. https://doi.org/10.1016/j.aeaoa.2024.100281
- Antonczak, B., **Thompson, T. M.**, DePaola, M. W., Rowangould, G. "2020 Near-Roadway Population Census, Traffic Exposure and Equity in the United States" *Transportation Research Part D: Transport and Environment* **2023**, *125*, 103965. https://doi.org/10.1016/j.trd.2023.103965.
- Gohlke, J. M., Harris, M. H., Roy, A., **Thompson, T. M**., DePaola, M., Alvarez, R. A., Anenberg, S. C., Apte, J. S., Demetillo, M. A. G., Dressel, I. M., Kerr, G. H., Marshall, J. D., Nowlan, A. E., Patterson, R. F., Pusede, S. E., Southerland, V. A., Vogel, S. A. "State-of-the-Science Data and Methods Need to Guide Place-Based Efforts to Reduce Air Pollution Inequity" *Environmental Health Perspectives* 2023, *131* (12), 125003. https://doi.org/10.1289/EHP13063.
- He, T.-L., Dadheech, N., **Thompson, T. M**., Turner, A. J. "FootNet: Development of a Machine Learning Emulator of Atmospheric Transport" 2023.
- Lin, J. C., Fasoli, B., Mitchell, L., Bares, R., Hopkins, F., **Thompson, T. M.**, Alvarez, R. A. "Towards Hyperlocal Source Identification of Pollutants in Cities by Combining Mobile Measurements with Atmospheric Modeling" *Atmospheric Environment* 2023, *311*, 119995. https://doi.org/10.1016/j.atmosenv.2023.119995.
- Buonocore, J. J., Reka, S., Yang, D., Chang, C., Roy, A., **Thompson, T.M.,** Lyon, D., McVay, R., Michanowicz, D., Arunachalam, S. "Air Pollution and Health Impacts of Oil & Gas Production in the United States" *Environ. Res.: Health* 2023, *1* (2), 021006. https://doi.org/10.1088/2752-5309/acc886.
- **Thompson, T.M.** " Modeling the climate and carbon systems to estimate the social cost of carbon" *WIREs Climate Change*, *9*(5), e532, 2018.
- Zhang, R., **Thompson, T.M.**, Barna, M.G., Hand, J.L., McMurray, J.A., Bell, M.D., Malm, W.C., Schichtel, B.A. "Source regions contributing to excess reactive nitrogen deposition in the Greater Yellowstone Area (GYA) of the United States", *Atmospheric Chemistry and Physics Discussions* 1–38, 2018.
- **Thompson, T.M.**, Shepherd, D., Stacy, A., Barna, M.G., Schichtel, B.A. "Modeling to Evaluate Contribution of Oil and Gas Emissions to Air Pollution" *Journal of the Air & Waste Management Association,* 67, 445–461, 2017.
- Li, Y., **Thompson, T.M.**, Van Damme, M., Chen, X., Benedict, K.B., Shao, Y., Day, D., Boris, A., Sullivan, A.P., Ham, J., Whitburn, S., Clarisse, L., Coheur, P.-F., and Collett Jr.,

J.L. “Temporal and spatial variability of ammonia in urban and agricultural regions of northern Colorado, United States”, *Atmospheric Chemistry and Physics,* 17, 6197–6213, 2017.

- Saari, R.K., **Thompson, T.M.**, Selin, N.E. “Human Health and Economic Impacts of Ozone Reductions by Income Group” *Environmental Science & Technology*, 51, 1953–1961, 2017.
- **Thompson, T.M.**, Rausch, S., Saari, R.K., Selin, N.E. “Air quality co-benefits of subnational carbon policies” *Journal of the Air & Waste Management Association,* 66, 988–1002, 2016.
- Malm W.C., Rodriguez M.A., Schichtel B.A., Gebhart K.A., **Thompson T.M.,** Barna M.G., Benedict K.B., Carrico C.M., Collett Jr. J.L. “A hybrid modeling approach for estimating reactive nitrogen deposition in Rocky Mountain National Park”, *Atmospheric Environment* 126, 258–273, 2016.
- **Thompson T.M**., Rodriguez M.A., Barna M.G., Gebhart K., Hand J., Day D., Malm, W., Benedict K., Collett Jr. J.L., and Schichtel B. “Atmospheric Modeling of Reduced Nitrogen Deposition Source Apportionment at Rocky Mountain National Park“, *Journal of Geophysical Research: Atmospheres,* 120, 2015.
- Saari R.K**.**, Selin N.E**.**, Rausch S. and **Thompson T.M.** “A self-consistent method to assess air quality co-benefits from US climate policies”, *Journal of the Air & Waste Management Association,* 65, 74-89, 2015.
- **Thompson T.M.**, Rausch S., Saari R.K., Selin N.E. “Air Quality Co-Benefits of US Carbon Policies: A Systems Approach to Evaluating Policy Outcomes and Uncertainties”, *Nature Climate Change,* 4, 917-923. 2014.
- **Thompson T.M.**, Saari, R.K., Selin, N.E. “Air Quality Resolution for Health Impacts Assessment: Influence of Regional Characteristics”, *Atmospheric Chemistry & Physics*, 14, 969-978, 2014.
- **Thompson T. M.** and Selin N. E. “Influence of air quality model resolution on uncertainty associated with health impacts”, *Atmospheric Chemistry & Physics,* 12(20), 9753–9762, 2012.
- Sun L., Webster M., McGaughey G., McDonald-Buller E.C., **Thompson T.M.**, Prinn R., Ellerman A.D. and Allen D.T. “Flexible NOx Abatement from Power Plants in the Eastern United States”, *Environmental Science & Technology,* 46 (10): 5607–5615, 2012.
- **Thompson T.M**., King C.W., Allen D.T., Webber M.E. “Air quality impacts of plug-in hybrid electric vehicles in Texas: evaluating three battery charging scenarios”, *Environmental Research Letters,* 6, 024004, 2011.
- **Thompson T.M.,** Kimura Y., Durrenberger C., Webb A., Tejela Matias A.I., and Allen D.T.: “Estimates of the Air Quality Benefits using Natural Gas in Industrial and Transportation Applications in Lima, Peru”, *Clean Technologies and Environmental Policy*. January 2009.
- **Thompson, T.M.,** Webber M.E., Allen D.T. “Air Quality Impacts of Using Overnight Electricity Generation to Charge PHEVs for Daytime Use”, *Environmental Research Letters*. December 2008.
- Wang L., **Thompson T.**, McDonald-Buller E.C., Webb A., and Allen D.T. “Photochemical Modeling of Emissions Trading of Highly Reactive Volatile Organic Compounds (HRVOCs) in Houston, Texas. Part 1. Potential for Ozone Hot Spot Formation and Reactivity Based Trading”, *Environmental Science & Technology*, 41, 2095-2102, 2007.
- Wang L., **Thompson T.**, McDonald-Buller E.C., Webb A., and Allen D.T. “Photochemical Modeling of Emissions Trading of Highly Reactive Volatile Organic Compounds (HRVOCs) in Houston, Texas. Part 2. Incorporation of Chlorine Emissions”, *Environmental Science & Technology*, 41, 2102-2107, 2007.

Full publication list available upon request or [Google Scholar link].

Education

Ph.D., Chemical Engineering | University of Texas at Austin | 2008
Thesis: *Evaluating the Design of Emissions Trading Programs Using Air Quality Models*
B.S., Chemical Engineering, with Honors | University of Florida | 2002
GPA: 4.0/4.0

Additional Information

- Extensive experience as expert witness on air quality, emissions, and atmospheric modeling.
- International field experience (Peru, Brazil) building emissions models and training local scientists.
- Languages: English (native), Spanish (conversational).

Exhibit 2

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT BOARD

IN THE MATTER OF PROPOSED REPEAL AND REPLACEMENT OF 20.2.71 NMAC – *OPERATING PERMIT EMISSIONS FEES* AND 20.2.75 NMAC – *CONSTRUCTION PERMIT FEES*

No. EIB 25-77 (R)

TECHNICAL TESTIMONY OF TAMMY THOMPSON

BACKGROUND AND QUALIFICATIONS

Q: Please state your name.

A: Tammy Thompson.

Q: Where are you employed and what is your position?

A: I am a Senior Air Quality Scientist at the Environmental Defense Fund (EDF). At Environmental Defense Fund, I led the development of Air Tracker, an inverse modeling system that integrates ground-based air quality observations with Lagrangian atmospheric transport modeling to identify pollution source regions at neighborhood-scale resolution. This tool is used by regulators, researchers, and communities to investigate pollution events and inform enforcement and policy decisions. I also led national-scale transportation emissions and exposure modeling projects, producing high-resolution emissions and concentration datasets used for environmental justice analyses and regulatory evaluations. Additionally, I have evaluated regional and global emissions inventories, including for Brazil and India, to identify data gaps and improve the representation of emissions sources in regulatory and scientific models.

Q: What is your educational background?

A: I have an undergraduate degree in Chemical Engineering from the University of Florida, and a PhD in Chemical Engineering from the University of Texas.

Q: Can you briefly describe your work background?

A: My research and professional work focus on the scientific measurement and modeling of air pollution and the development of analytical tools to inform regulatory decision-making and public health protection. My expertise lies at the intersection of atmospheric monitoring, chemical transport modeling, and policy-relevant data analysis, with the goal of identifying pollution sources, quantifying exposure, and evaluating the effectiveness of regulatory interventions.

I have authored or co-authored more than twenty peer-reviewed scientific publications on air pollution, atmospheric chemistry, and health impacts of emissions. I have delivered invited and academic presentations on air quality science and policy design and have served as an expert witness before the Colorado Air Quality Control Commission on the air quality impacts of upstream oil and gas development, including methane and co-emitted pollutants. In that capacity, I provided scientific analysis to support regulatory decision-making regarding emissions controls and monitoring requirements.

In prior research, I developed an integrated modeling platform that linked economic models, air quality models, and health impact models to evaluate the costs, benefits, and distributional impacts of national climate and air quality policies. I have conducted national-scale modeling studies evaluating the air quality and public health impacts of oil and gas operations, incorporating fine-scale emissions adjustments to reflect state-level regulatory scenarios and operational differences. These efforts required careful validation of model inputs and outputs using observational data.

Earlier in my career at MIT and Colorado State University, I conducted research linking emissions inventories, atmospheric chemistry, and meteorology to regulatory outcomes, including refining nitrogen cycle representation in regional chemical transport models and developing integrated assessment frameworks to evaluate climate and air quality policies. Across all roles, I have integrated emissions inventories with ground-based, airborne, and satellite observations to assess model performance, quantify uncertainty, and improve the scientific basis for regulatory decisions.

My work is grounded in established scientific methodologies, including statistical analysis of monitoring data, atmospheric transport modeling, inverse modeling, and model–measurement evaluation. These methods are widely used in regulatory and academic contexts and are designed to produce reproducible, transparent, and scientifically defensible results suitable for policy and enforcement applications.

Q: Is Conservation Groups' Exhibit 1 an accurate copy of your resume?

A: Yes.

Q: In preparing your testimony, what sources did you review?

A: I reviewed Applicants' Application, including the proposed amendments to Parts 71 and 75 of Title 10, Chapter 2 of the New Mexico Administrative Code. In addition, I reviewed various materials that are included as references at the end of my testimony.

<u>SUMMARY OF OPINIONS</u>

Q: Can you summarize the opinions you will provide in your testimony?

A: Air quality monitoring and modeling are foundational to effective air pollution regulation, permitting, and enforcement. Monitoring data are necessary to identify pollution sources, evaluate compliance, validate air quality models, and protect public health. As air pollution science and regulatory responsibilities have expanded, the technical complexity and costs of monitoring and modeling have increased substantially. Existing monitoring coverage and modeling capacity are insufficient to meet current regulatory needs, and increased emissions and permitting fees are necessary and reasonable to support statutory obligations.

OVERVIEW OF AIR MONITORING

Q: Dr. Thompson, why is it important for the New Mexico Environment Department (NMED) to conduct air monitoring?

A: Air quality monitoring is fundamental to building and sustaining a scientifically defensible understanding of air pollution, human exposure, and environmental and public health risks.[1] Monitoring data are the foundation upon which air quality models are developed, evaluated, and applied, and thus monitoring directly supports the administration and enforcement of air pollution permits.[2] Without reliable monitoring data, regulatory agencies will not have the information needed to identify pollution sources, evaluate compliance with permits, and design effective regulatory strategies to protect public health and the environment.[3]

Monitoring also plays a critical role in the utilization of emerging data sources, including satellite-based air quality measurements, in regulatory decision making.[4] Satellites now provide hourly observations of key pollutants across the United States, but these datasets require validation against ground-based monitoring data before they can be used to support regulatory

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[1] US EPA, O. (2020, September 22). *Ambient Air Monitoring Strategy for State, Local, and Tribal Air Agencies* [Other Policies and Guidance]. https://www.epa.gov/amtic/ambient-air-monitoring-strategy-state-local-and-tribal-air-agencies

[2] Russell, A., & Dennis, R. (2000). NARSTO critical review of photochemical models and modeling. *Atmospheric Environment*, *34*(12), 2283–2324. https://doi.org/10.1016/S1352-2310(99)00468-9

[3] U.S. Environmental Protection Agency. (2023). *Air Quality Modeling Technical Support — EPA-454/R-23-007.*

[4] Zoogman, P. et al. (2017). Tropospheric emissions: Monitoring of pollution (TEMPO). *Journal of Quantitative Spectroscopy and Radiative Transfer, Satellite Remote Sensing and Spectroscopy: Joint ACE-Odin Meeting, October 2015*, *186*, 17–39. https://doi.org/10.1016/j.jqsrt.2016.05.008

and enforcement actions. As such, investments in monitoring infrastructure are increasingly necessary to ensure that agencies can take full advantage of these new technologies.

Monitoring is necessary to understand spatial and temporal variability in air pollution. Air pollution concentrations can vary substantially across short distances and over time due to the distribution of emission sources, atmospheric chemistry, and meteorology. Numerous studies have demonstrated that pollutant concentrations can vary by several-fold over distances as small as tens to hundreds of meters in urban environments, driven by traffic, industrial sources, and urban infrastructure.[5]

This spatial variability means that a limited number of monitors cannot adequately characterize exposure, identify hotspots, or detect localized violations of air quality standards. Increasing the spatial density of monitoring sites within cities is therefore necessary to identify areas of elevated exposure, support enforcement actions, and guide targeted mitigation strategies. Monitoring is also essential in rural and suburban regions. Rural areas can experience elevated pollution levels due to oil and gas development, agriculture, wildfires, and long-range transport. For example, ozone exceedances have been observed in the Permian Basin and other oil and gas producing regions, yet monitoring coverage in many of these regions remains sparse. Without adequate monitoring, it is difficult to quantify contributions from in state versus out-of-state sources, which is critical for interstate regulatory obligations and enforcement.[6]

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[5] Apte, J. S. et al. (2017). High-Resolution Air Pollution Mapping with Google Street View Cars: Exploiting Big Data. *Environmental Science & Technology*, *51*(12), 6999–7008. https://doi.org/10.1021/acs.est.7b00891

[6] Marsavin, A., Pan, D., Pollack, I. B., Zhou, Y., Sullivan, A. P., Naimie, L. E., Benedict, K. B., Juncosa Calahoranno, J. F., Fischer, E. V., Prenni, A. J., Schichtel, B. A., Sive, B. C., & Collett Jr, J. L. (2024). *Summertime ozone production at Carlsbad Caverns National Park, New Mexico: Influence of oil and natural gas development.* JGR Atmospheres, 129, e2024JD040877. https://doi.org/10.1029/2024JD040877.

Monitoring sites located upwind and downwind of cities are particularly valuable for distinguishing pollution transported into an urban area from pollution generated within the city. This distinction is essential for permitting and enforcement, as it informs which sources and jurisdictions are responsible for observed concentrations.

Air quality models are essential tools for linking emissions from permitted sources to ambient pollutant concentrations and human exposure. Models are used to evaluate permit applications, assess cumulative impacts, design State Implementation Plans (SIPs), and evaluate the effectiveness of regulatory controls. However, models are only as reliable as the observational data used to develop and evaluate them.

Monitoring data are required to:

- Evaluate model performance by comparing modeled concentrations to measured concentrations.
- Validate emissions inventories, which are a critical input to air quality models.
- Assess meteorological and chemical processes that influence pollutant formation and transport.

Without robust monitoring data, regulators cannot determine whether models are accurately representing real-world conditions.[7] This undermines the ability of agencies to use models for permit review, compliance assessment, and enforcement actions.

Thus, monitoring costs are directly tied to the statutory goal of administering and enforcing permits. Modeling supported by monitoring data enables agencies to identify sources contributing to violations, assess cumulative impacts, and design enforceable permit conditions.

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[7] Chang, J. C., & Hanna, S. R. (2004). Air quality model performance evaluation. *Meteorology and Atmospheric Physics*, *87*(1), 167–196. https://doi.org/10.1007/s00703-003-0070-7

Recent advances in satellite remote sensing, including satellites such as TROPOMI and TEMPO, provide unprecedented spatial and temporal coverage of pollutants such as nitrogen dioxide, formaldehyde, and ozone. However, satellite retrievals rely on assumptions about atmospheric structure and require validation against ground-based measurements before they can be used for regulatory or enforcement purposes.

Ground-based monitoring networks are therefore necessary to "ground-truth" satellite observations, establish relationships between column measurements and surface concentrations, and quantify uncertainty.[8] Expanding monitoring coverage increases the ability to extrapolate pollution estimates to unmonitored areas, thereby improving regional assessments of compliance and exposure.

Monitoring and modeling directly support the statutory considerations the Board must evaluate:

- Protection of Health, Welfare, Visibility, and Property: Monitoring identifies exposures and informs mitigation strategies to protect human health and environmental assets.

- Public Interest: Accurate data and models ensure transparent, evidence-based decision-making and public accountability in permitting and enforcement.

- Technical Practicability and Economic Reasonableness: Monitoring and modeling are established, widely accepted tools used by regulatory agencies nationwide. Increased fees to support these activities are technically necessary and economically reasonable given their central role in protecting public health and ensuring lawful permit administration.

In summary, air quality monitoring is not optional or ancillary, it is a foundational component of effective air quality regulation. Monitoring supports modeling; modeling supports permitting and enforcement; and enforcement protects public health and the public interest. As

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[8] Duncan, B. N., et al. (2014). Satellite data of atmospheric pollution for U.S. air quality applications: Examples of applications, summary of data end-user resources, answers to FAQs, and common mistakes to avoid. *Atmospheric Environment*, *94*, 647–662. https://doi.org/10.1016/j.atmosenv.2014.05.061

regulatory responsibilities and scientific capabilities expand, the costs associated with monitoring and modeling are necessary and justified. Increased emissions fees are therefore an appropriate and reasonable mechanism to ensure agencies have the resources required to fulfill their statutory obligations.

Q. Could you discuss the costs associated with air monitoring and modeling?

A: The U.S. Environmental Protection Agency (EPA) maintains a list of reference grade air quality monitoring instruments recommended for regulatory decision making. These instruments are approved based on their accuracy, precision, and demonstrated field performance and are recommended for data used in permitting, enforcement, and regulatory determinations such as National Ambient Air Quality Standards (NAAQS) compliance.[9]

The cost of air monitoring extends well beyond the purchase of this equipment. Monitoring is a multi-step technical process requiring specialized infrastructure, trained personnel, and sustained operational support. Key cost components include:

- <u>Instrument purchase and installation</u>: Reference grade monitors for pollutants such as PM2.5, ozone, and NO2 typically cost tens to hundreds of thousands of dollars per instrument, not including site construction, power, shelters, and calibration systems.

- <u>Operations and maintenance</u>: Instruments require routine calibration, filter replacement, and periodic upgrades. Field technicians must regularly visit sites to ensure data quality and instrument functionality. Maintenance costs are ongoing to ensure data are legally defensible.

- <u>Communications and data systems</u>: Monitoring stations require reliable communication (e.g.: Wi-Fi) to transmit data in near real time. Agencies must maintain secure servers, databases, and backups to store and manage large volumes of data.

- <u>Quality assurance and data validation</u>: EPA regulations require rigorous quality assurance/quality control (QA/QC) procedures, including data flagging, validation,

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[9] US EPA, O. (2020, September 22). *Ambient Air Monitoring Strategy for State, Local, and Tribal Air Agencies* [Other Policies and Guidance]. https://www.epa.gov/amtic/ambient-air-monitoring-strategy-state-local-and-tribal-air-agencies

and documentation. These tasks require highly trained scientists and technicians and are essential for data to be used in enforcement or legal proceedings.

- Data analysis and regulatory modeling: Monitoring data must be analyzed to evaluate trends, identify exceedances, inform permitting decisions, and support air quality models. Modeling is computationally intensive and requires specialized staff, software licenses, and high-performance computing resources.

Each step in this chain is essential. Data that are collected but not validated, stored, or analyzed cannot be used for regulatory decisions or enforcement. Thus, monitoring costs encompass not only hardware, but also personnel, infrastructure, and scientific analysis.

Q: Are NMED's existing air monitoring and modeling activities sufficient to support administration and enforcement of permits?

A: No, NMED would benefit from increased air monitoring and modeling activities especially in and around the regions with known high ozone levels (including the Permian basin) to fill in spatial gaps in ground level air concentration knowledge, and to better understand the role of different species in the production of secondary pollutants. For example, Houston Texas has over a dozen Automated Gas Chromatograph units that measure hourly concentrations of speciated volatile organic compounds (VOCs). VOCs are an important component in the formation of ozone. With additional monitoring of VOCs, NOx, speciated PM2.5, and ozone, NMED could better support and validate photochemical modeling to more confidently link emissions from individual facilities to air pollutant concentrations across the state. This information would allow NMED to make the most efficient and effective emissions control decisions.

Q: Are the current fee schedules sufficient to cover necessary air monitoring and modeling?

A: As stated, monitoring and modeling are both expensive, and it is clear that NMED needs to increase the density of monitoring, the number of species monitored, and the air quality modeling studies to better understand the relationship between permitted emissions and air pollution throughout the state. Therefore, it seems clear that NMED needs higher income from fees, and therefore, higher fees. Without sufficient funding for these activities, NMED cannot:

- Evaluate permit applications and cumulative impacts,
- Detect violations or emerging pollution trends, or
- Protect public health and the public interest.

Therefore, increased emissions fees are scientifically justified and necessary to support the statutory responsibilities of the agency. The costs associated with modern air monitoring and modeling reflect advances in science, expanded regulatory requirements, and the increasing complexity of air pollution sources.

20.2.71 NMAC – OPERATING PERMIT EMISSIONS FEES

Q: Beginning with 20.2.71 NMAC – Operating Permit Emissions Fees, Applicants propose amend 20.2.71.112 to increase the annual fees from $20.00 to $85 per ton for each fee pollutant and from $165.00 to $258 per ton for each hazardous air pollutant. Do you support this proposal?

A: Yes, I do. As stated above, air monitoring and air modeling are key to the design of effective and efficient air pollution policy. Increased fees will provide the funds needed to support the necessary increase in monitoring and modeling needed for development and administration of the permitting program.

20.2.75 NMAC – CONSTRUCTION PERMIT FEES

Q. Turning to 20.2.75 NMAC – Construction Permit Fees, Applicants propose to amend 20.2.75.11.B to change the application review fee multiplier from $315 to $585. Do

you support this proposal?

A. Yes, I do. As previously stated, there are a number of costs associated with the necessary expansion of the air monitoring program, and increased fees will support the implementation of this program, and thus the enforcement of permit limits.

Q. Applicants propose to amend new Subsection F of 20.2.75.11 to increase annual fees for sources with a general construction permit from $1,500 to $2,800, and to establish an annual fee of $700 for sources determined not to require a permit to $700. Do you support this proposal?

A. Yes, I do, for the reasons stated above.

This concludes my testimony, which is accurate to the best of my knowledge.

_/s/ Tammy Thompson__________________
Tammy Thompson

Feb. 20, 2026_________________
Date

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