

333 1 STATE OF NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD 2 3 No. EIB 21-27(R) 4 IN THE MATTER OF PROPOSED NEW REGULATION, 20.2.50 NMAC - Oil and Gas Sector - 5 Ozone Precursor Pollutants 6 7 8 TRANSCRIPT OF PROCEEDINGS 9 10 BE IT REMEMBERED that on the 21st day of 11 September, 2021, this matter came on for hearing before 12 FELICIA ORTH, Hearing Officer, virtually through Cisco 13 Webex Meetings video conferencing, commencing at 9:00 a.m. 14 15 16 17 18 19 20 REPORTED BY: THERESA E. DUBOIS, RPR, CCR #29 Albuquerque Court Reporting Service, LLC 3150 Carlisle Boulevard, Northeast Suite 104 Albuquerque, New Mexico 87110 (505) 806-1202 abqcrs@gmail.com 21 22 23 24 25	335 1 A P P E A R A N C E S (Continued) 2 For the New Mexico Oil and Gas Association: 3 ERIC L. HISER, ESQ. BRANDON CURTIS, ESQ JORDAN HISER & JOY, PLC 5080 North 40th Street Suite 245 Phoenix, Arizona 85024 (480)505-3900 ehiser@jhjlawyers.com bcurtis@jhjlawyers.com 7 DALVA L. MOELLENBERG, ESQ. GALLAGHER & KENNEDY, P.A. 1239 Paseo de Peralta Santa Fe, New Mexico 87501 (505)982-9523 dlm@gknet.com 10 11 For the Conservation Votes New Meido, Dine C.A.R.E., 12 Earthworks, Natural Resources Defense Council, San Juan Citizens Alliance, Sierra Club, and 350 New Mexico 13 ("Clean Air Advocates"): 14 TANNIS FOX, ESQ. WESTERN ENVIRONMENTAL LAW CENTER 409 East Palace Avenue, #2 Santa Fe, New Mexico 87501 (505)629-0732 fox@westernlaw.org 16 17 DAVID R. BAAKE, ESQ. BAAKE LAW LLC 2131 North Main Street Las Cruces, New Mexico 88001 (575)343-2782 david@baakelaw.com 19 20 For Environmental Defense Fund: 21 ELIZABETH DELONE PARANHOS, ESQ. DELONE LAW INC. 1555 Jennine Place Boulder, Colorado 80304 (303)442-0610 elizabeth@delonelaw.com 23 24 25
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1 A P P E A R A N C E S (Continued) 2 For Oxy USA Inc.: 3 J. SCOTT JANOE, ESQ. 4 BAKER BOTTS LLP 5 910 Louisiana Street 6 Houston, Texas 77002 7 (713)229-1421 8 scott.jano@bakerbotts.com 9 For Gas Compressor Association: 10 JEFFREY HOLMSTEAD, ESQ. 11 TIM WILKINS, ESQ. 12 WHIT SWIFT, ESQ. 13 BRACEWELL LLP 14 111 Congress Avenue 15 Suite 2300 16 Austin, Texas 78701 17 (512)472-7800 18 jeff.holmstead@bracewell.com 19 tim.wilkins@bracewell.com 20 whit.swift@bracewell.com 21 STUART R. BUTZIER, ESQ. 22 CHRISTINA C. SHEEHAN, ESQ. 23 MODRALL, SPERLING, ROEHL, HARRIS & SISK, P.A. 24 500 Fourth Street, Northwest, Suite 1000 25 Albuquerque, New Mexico 87102 (505)848-1800 srb@modrall.com ccs@modrall.com For Kinder Morgan, Inc., and its subsidiaries and affiliates, El Paso Natural Gas Company, LLC TransColorado Gas Transmission Co., LLC, and Natural Gas Pipeline Company of America, LLC: ANA MARIA GUTIERREZ, ESQ. HOGAN LOVELLS US LLP 1601 Wewatta Street Suite 900 Denver, Colorado 80202 (303)454-2514 ana.gutierrez@hoganlovells.com	1 I N D E X 2 PUBLIC COMMENT: (9 a.m.) 3 SISTER MARLENE PARROT 348 4 SONIA SOTO 351 5 NMED WITNESS: (Modeling) 6 RALPH MORRIS 7 Direct Examination by Mr. Knight 355 8 Cross-Examination by Mr. Baake 382 9 Cross-Examination by Mr. Hiser 383 10 Cross-Examination by Mr. Rose 399 11 Examination by the Board 400 12 Rebuttal Direct Examination by Ms. Katz 498 13 Rebuttal Cross-Examination by Mr. Hiser 510 14 Rebuttal Examination by the Board 513 15 NMOGA WITNESS: (Modeling) 16 DENNIS McNALLY 17 Direct Examination by Mr. Hiser 412 18 Cross-Examination by Mr. de Saillan 425 19 Examination by the Board 428 20 Redirect Examination by Mr. Hiser 440 21 Further Examination by the Board 441 22 Surrebuttal Examination by Mr. Hiser 492 23 IPANM WITNESS: (Modeling) 24 DOUG BLEWITT 25 Rebuttal Direct Examination by Mr. Rose 447 Rebuttal Examination by the Board 476 Further Examination by the Board 486 PUBLIC COMMENT: (1 p.m.) JOHN WATERS 460 JENNIFER GRASSHAM 465 ANN McCARTNEY 468 SHARON WILSON 471

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346 1 NMOGA EXHIBITS: (Continuing) ADMITTED 2 Rebuttal Exhibit 53. Fort Worth Natural Gas 3 Air Quality Study 411 4 Rebuttal Exhibit 54. 08/25/2020 Letter to Christy 5 Woodward - Summary of NPCA Alternate Proposal 411 6 Rebuttal Exhibit 55. Transcript of Testimony 7 before New Mexico Oil Conservation Commission 411 8 Rebuttal Exhibit 56. Transcript of Testimony 9 before New Mexico Oil Conservation Commission 411 10 NEW MEXICO ENVIRONMENTAL LAW CENTER EXHIBITS: 11 Exhibit 1. Direct Testimony of Theresa A. Pasqual 12 576 13 Exhibit 2. Resume of Theresa A. Pasqual 576 14 IPANM EXHIBITS: 15 Exhibit 2. Direct Testimony of Jeffrey Ryan 16 Davis on behalf of IPANM 638 17 Rebuttal Exhibit 10. Rebuttal Testimony of 18 Jeffrey Ryan Davis on behalf of IPANM 638 19 20 21 22 23 24 25	348 1 Jones. All comments, like all testimony in this hearing, 2 is taken under oath and subject to questioning. So let's 3 start. Let me see if Mr. Smith is on the platform. 4 Curtis Smith. It does take me a moment to scroll through 5 the names, so pardon me while I do that. Connie, Colette, 6 sorry. We moved right from the C's to the D's. I don't 7 see Mr. Smith. 8 So I know that Sister Parrot is on the platform. 9 I saw her name. Let me get to you. There you are. 10 Sister Parrot, can you hear me? 11 SISTER PARROT: Yes. 12 HEARING OFFICER ORTH: Terrific. If you would 13 please raise your right hand. Do you swear or affirm that 14 you will tell the truth? 15 SISTER PARROT: I do. 16 HEARING OFFICER ORTH: Thank you very much. I 17 will start your five minutes now. 18 SISTER MARLENE PARROT, 19 having been first duly sworn or affirmed, 20 gave public comment as follows: 21 PUBLIC COMMENT OF SISTER MARLENE PARROT 22 SISTER PARROT: Dear Members of the Environmental 23 Improvement Board: I am Marlene Parrot, a Sister of Mercy 24 and member of New Mexico Interfaith Power and Light. I am 25 speaking today to encourage the EIB to vote to support and

349 1 strengthen the New Mexico Environment Department's draft 2 rule to address ozone precursor pollutants from oil and 3 gas operations. These are ethical issues that demand 4 protection of the common good. 5 Oil and gas operations also release hazardous air 6 pollution such as benzene, that is proven to cause cancer; 7 putting those living closest to oil and gas operations at 8 the greatest risk. More than 130,000 New Mexican live 9 within a half mile of oil and gas development. Rural 10 communities, tribal communities, children and the elderly 11 are especially at risk. New Mexico is home to some of the 12 worse methane pollution in the county. New Mexico is home 13 to two energy-producing regions that are among the 14 nation's most polluted: Eddy, Lea, San Juan, Rio Arriba, 15 and Chaves Counties, the five New Mexico counties home to 16 97 percent of the state's oil and gas wells are all at 17 risk of violating federal ozone standards of 70 parts per 18 billion. 19 More methane pollution means accelerated climate 20 change and an uncertain future for New Mexico's children. 21 Methane is a potent greenhouse gas, 84 times more powerful 22 than carbon dioxide in the near term. In fact, methane 23 pollution contributes to about 25 percent of the global 24 warming we are experiencing today. This rule is critical 25 for protecting both our health and climate by reducing	351 1 Can you hear me? 2 MS. SOTO: Can you hear me? 3 HEARING OFFICER ORTH: Oh, you're very soft. Can 4 you speak up, please? 5 MS. SOTO: Can you hear me now? 6 HEARING OFFICER: Yes, that's much better. Thank 7 you. Okay. 8 MS. SOTO: Okay. 9 HEARING OFFICER ORTH: Would you -- your first 10 name is spelled S-O-N-I-A and your last name is S-O-T-O? 11 MS. SOTO: Yes, ma'am. 12 HEARING OFFICER: All right. Would you raise 13 your right hand, please. Do you swear or affirm to tell 14 the truth? 15 MS. SOTO: Yes. 16 HEARING OFFICER ORTH: Thank you. Your five 17 minutes starts now. 18 SONIA SOTO, 19 having been first duly sworn or affirmed, 20 gave public comment as follows: 21 PUBLIC COMMENT OF SONIA SOTO 22 MS. SOTO: Dear Members of the Environmental 23 Improvement Board. I am a member of the CCFF and a 24 resident of Eddy County. I live in Carlsbad. I am 25 concerned about the methane pollution because of the
350 1 small forming volatile organic compounds as well as 2 methane, a powerful greenhouse gas responsible for 25 3 percent of climate change we are experiencing today. 4 While the environment department has put forward 5 a strong proposal, more work needs to be done to protect 6 communities and address major pollution sources to meet 7 Governor Lujan Grisham's goal of nation-leading rules to 8 cut pollution. 9 I would also emphasize that adequate funding for 10 inspections, monitoring and implementation of violations, 11 corrections, and fines be somewhat addressed. Please 12 adopt a strong final rule that protects communities and 13 addresses major sources of air and climate pollution. 14 Thank you very much. 15 HEARING OFFICER: Thank you very much. 16 All right. Sonya Soto was the next person who 17 indicated a desire to offer public comment this morning. 18 Ms. Soto, let's see if you're on the platform. In the 19 event you are on the platform and you'd like to make a 20 comment, please send a message through the Chat. If you 21 are struggling with the Chat function at all, call or send 22 a text to (505) 660-4305 and we'll get you -- we'll get 23 you taken care of. 24 Ms. Soto, I'm unmuting you. Ms. Soto, can you 25 hear me? Ms. Soto? Oh, there you are. I've unmuted you.	352 1 effects it has caused in this area. I support methane 2 rules and thank the Environmental Improvement Board for 3 this hearing. My grandson lives here in Carlsbad -- well, 4 we all do, and just seeing in the last ten years how much 5 Carlsbad has changed, it's very worrisome. I worry about 6 what kind of future he would have if we continue to live 7 here. We are, like, in a highly polluted area, county, 8 and our children need us to speak up for them and we -- we 9 need to make some changes for this area. 10 We're already experiencing impacts of climate 11 change. Our health, the air, the land, our water, like we 12 used to have a really nice river and it's just not the 13 same anymore. And I don't think we can ignore it anymore. 14 I think we need to make these changes now. Thank you. 15 HEARING OFFICER ORTH: Thank you very much, 16 Ms. Soto. I don't have anyone else indicating in the Chat 17 that they wish to offer comment. I don't see any other 18 unidentified call-in users. 19 Pam, did anyone else reach out to you to make 20 comment during this 9:00 session? 21 She may have stepped away. Oh, let me just -- 22 oh. Vice-Chair Trujillo-Davis, absolutely. 23 VICE-CHAIR TRUJILLO-DAVIS: I just want to say 24 thank you to the two members of the public who spoke out 25 this morning. I understand it takes a lot of courage to

353 1 get on a platform like this and even to stand up in front 2 of the group when we all are gathered, so thank you for 3 taking the time to speak up. 4 HEARING OFFICER ORTH: Yes. Thank you. 5 Opportunities to offer nontechnical public 6 comment, it's at 9 a.m., 1 p.m. and 5 p.m. every day. 7 (Unintelligible.) To Pam Jones and identify the slot that 8 you are interested in. So I have a Chat message from 9 Sister Brown, asking if there's a Kyle on the call. And 10 there we go. I'm sorry, there's no Kyle on the call, but 11 please -- (unintelligible) 12 COURT REPORTER: Ms. Orth, you're cutting in and 13 out. It's Theresa, you're cutting in and out. 14 HEARING OFFICER ORTH: Oh, really? I'm not 15 getting any warning messages, but I will -- does it help 16 if I increase my volume? 17 COURT REPORTER: We'll see. 18 HEARING OFFICER ORTH: All right. I've just 19 heard from a staffperson saying that I'm not the one 20 cutting out, Theresa. 21 Okay. By the way, if it continues for you, 22 Theresa, although I do watch you carefully to make sure 23 that you're not waving your hands at me, it often helps to 24 turn off your camera, if you can. 25 MS. KATZ: Madam Hearing Officer, this is Lara	355 1 Exhibit NMED 107 for the direct testimony and NMED 2 rebuttal Exhibit 11 for the rebuttal testimony. 3 And Madam Hearing Officer, the Department would 4 like to call Ralph Davis. 5 HEARING OFFICER ORTH: Okay. Thank you. 6 MR. KNIGHT: Or excuse me -- Ralph Morris. I'm 7 sorry. 8 HEARING OFFICER ORTH: All right. Mr. Morris, 9 can you turn on? There you are. 10 MR. MORRIS: Here I am. 11 HEARING OFFICER ORTH: I see you on the video and 12 you're unmuted. Do keep your voice up, please. And 13 apparently, we were speaking at higher speeds yesterday, 14 so -- toward the end of the day, so if you would please 15 take care to speak slowly. The transcript in this matter 16 is the official record. 17 If you would raise your right hand, please. Do 18 you swear or affirm to tell the truth? 19 MR. MORRIS: I do. 20 HEARING OFFICER ORTH: Thank you very much. 21 And it looks like Ralph and Morris are both the 22 standard spelling, so thank you. 23 RALPH MORRIS, 24 having been first duly sworn or affirmed, was examined 25 and testified as follows:
354 1 Katz; you're also cutting out for me as well, so I don't 2 know if it's -- I think it might not just be the court 3 reporter. 4 HEARING OFFICER ORTH: Okay. Well, thank you for 5 that. I'm getting mixed -- mixed messages. All right. 6 So let's turn from the -- let's turn from the technical 7 comment session back to the technical case. And when we 8 ended last night, we were in agreement that we would begin 9 this morning with modeling. So Ms. Katz? 10 MS. KATZ: Madam Hearing Officer, Mr. Knight is 11 going to be presenting Mr. Morris for the modeling. 12 HEARING OFFICER ORTH: Terrific. Thank you. You 13 might have said that and I didn't remember. So thank you. 14 Mr. Knight, whenever you're ready, do I need to 15 turn Mr. Morris into a panelist or do we already have him? 16 MR. KNIGHT: Yes, please, if he's not already. 17 HEARING OFFICER ORTH: Let's see here. Remind me 18 of the first name. 19 MR. KNIGHT: Ralph. 20 HEARING OFFICER ORTH: Ralph, thank you. There 21 he is. Okay. 22 VICE-CHAIR TRUJILLO-DAVIS: Can you send the 23 exhibit numbers for this witness? 24 MR. KNIGHT: Yes. Member Trujillo-Davis and 25 Madam Hearing Officer, members of the Board, we will be	356 1 DIRECT EXAMINATION OF RALPH MORRIS 2 BY MR. KNIGHT: 3 Q. Good morning, Mr. Morris. Could you tell us 4 where you are employed? 5 A. I work for Ramboll U.S. Consulting, Inc. 6 Q. And how long have you worked for Ramboll? 7 A. Almost 27 years. 8 Q. And what is your current job title? 9 A. I'm a managing principal. 10 Q. And what are your job duties? 11 A. I have two main duties. One is I manage the 12 Central West Business Unit of Ramboll Environment and 13 Health; that consists of about 130 people and offices in 14 Northern California, Utah and Colorado. And they also 15 lead air quality consulting projects, many that have to do 16 with photochemical grid modeling and evaluating the 17 effects that emission controls have on ozone, particulate 18 matter, visibility, and deposition. 19 Q. Please describe your educational and professional 20 qualifications. 21 A. So I have a Bachelor's and a Master's in 22 Mathematics from the University of California. I started 23 my air quality consulting career back in 1979, modeling 24 ozone formation in the Los Angeles Basin. And since then, 25 I've developed numerous ozone and particulate matter

357 1 models and applied them in many different strategies and 2 studies. I was responsible for delivering the Urban 3 Airshed Model that was the first photochemical grid model 4 to the EPA, and that was used in the first set of ozone 5 SIPs back in 1994. 6 Since then, I've built other models that I've 7 used in the Ozone Transport Assessment Group. And when I 8 joined Ramboll and Environ back in 1994, I led or co-led 9 the development of the comprehensive air quality model 10 extension, which is the photochemical grid model that was 11 used in this particular study. 12 Q. What are some of your more recent photochemical 13 air quality modeling projects? 14 A. Well, the last two years I led the photochemical 15 modeling for the Western States Regional Haze SIPs, so 16 that was for the Western Regional Air Partnership. And 17 then I've also over the last few years, led the Denver 18 Ozone SIP modeling for the -- as a moderate -- excuse me, 19 as a serious ozone nonattainment area under the 2008 ozone 20 NAAQS. And I'm currently doing the modeling for Denver, 21 as a severe nonattainment area under the 2008 NAAQS, and a 22 moderate nonattainment area under the 2015 ozone NAAQS. 23 And then I also led the photochemical modeling for the New 24 Mexico Ozone Attainment Initiative that's the subject of 25 today's testimony.	359 1 HEARING OFFICER ORTH: It takes me a second. 2 Hold on. Okay. Now you should have it. 3 MR. MORRIS: It still doesn't seem to be working. 4 HEARING OFFICER ORTH: It takes a second. 5 MR. MORRIS: Oh, there we go. 6 HEARING OFFICER ORTH: And by the way, in the 7 event -- I'm not getting a low band width signal for 8 myself, but in the event you see me go dark, that's all 9 I'm doing; I'm still sitting here, but I may turn off my 10 video if I continue to cut out. And I did just have -- 11 okay. Please go ahead. 12 MR. MORRIS: Is my screen sharing? Is my screen 13 sharing? 14 HEARING OFFICER: Yes, it is. 15 Q. (BY MR. KNIGHT) Yes. 16 A. Okay. Good. Oh, so I'm going to talk about the 17 New Mexico Ozone Attainment Initiative Photochemical 18 Modeling Study. And this is all information that's in my 19 direct testimony or rebuttal testimony. 20 So, this is a yearlong study starting in April 21 2020 and -- or actually for a few months. And the steps 22 in doing this study was starting with the modeling 23 protocol. We're following EPA's Ozone Modeling Guidance 24 or SIP modeling, even though this wasn't a SIP. And the 25 next step was we did a work meteorological modeling to get
358 1 Q. And a copy of your resume has been provided as 2 NMED Exhibit 107, correct? 3 A. That is correct. 4 Q. Okay. And you've submitted direct and rebuttal 5 testimony for this proceeding? 6 A. Yes, I have. 7 Q. Okay. Your full written, direct testimony 8 appears as NMED Exhibit 106 and your written rebuttal 9 testimony appears as NMED Rebuttal Exhibit 11; is that 10 correct? 11 A. That is correct. 12 Q. Do you have any changes to your written 13 testimony? 14 A. No. 15 Q. And do you adopt your written testimony here 16 today? 17 A. Yes. 18 Q. So, Mr. Morris, can you summarize the results of 19 the New Mexico Ozone Attainment Initiative Photochemical 20 Modeling Study? 21 A. Yes. I have a PowerPoint presentation to do 22 that. 23 Q. Okay. I think you should be able to share your 24 screen and begin that presentation. 25 A. My share button seems to not be working.	360 1 the meteorology for our modeling period. We had 2014 2 base-case emissions that we adapted from the Western 3 Regional Air Partnership. And then we did a CAMx, which 4 had a photochemical grid model 2014 base-case modeling and 5 allowed us to perform evaluations. 6 We developed new 2028 New Mexico oil and gas 7 emissions, projecting those through 2028. And then we 8 took the rest of the 2028 base-case emissions based on the 9 WRAP 2028 OTBa2. And those WRAP, 2014 and 2028 emissions, 10 are what was used in the Western States Regional Haze SIPs 11 so they've been extensively reviewed and evaluated and 12 documented. 13 We then did a CAMx 2028 base-case and a CAMx 2028 14 New Mexico oil and gas control strategy case, and that had 15 the rules we're discussing today. Then we assessed the 16 ozone impacts of the oil and gas controls. And, finally, 17 we did some ozone apportionment modeling of the 2028 New 18 Mexico oil and gas control strategy. 19 During the course of this study, we had a website 20 up in the WRAP website, where we documented the study as 21 it occurred, starting with the modeling protocols in May 22 of 2020. We had monthly webinars with the New Mexico 23 Environmental Division, and then we posted those as PDFs 24 up on the website. And then we had a couple of base-case 25 modeling reports and then the -- in May 2021, we had an

361 1 air quality technical support document, which my direct 2 testimony was based on that. And that was what was 3 reviewed by Mr. McNally and Mr. Blewitt. 4 So to just back up a little bit, a photochemical 5 grid model divides the domain that you're modeling into a 6 series of grid squares or an array of three-dimensional 7 grid squares, those stacked boxes. We get the 8 meteorological inputs from this Weather Research Forecast 9 Meteorological Model that gives you three-dimensional 10 meteorological variables like wind speed, wind direction, 11 temperature, pressure, water vapor, precipitation and all 12 of the meteorological, it's kind of a weather forecasting 13 model. 14 There's concentration around the outside of our 15 domain, that we call boundary conditions. So these are -- 16 these come from a global chemistry model that WRAP ran for 17 2014. And then there are emission inputs, where you have 18 gridded low-level emissions that go directly to the first 19 layer of the model, and then elevated point sources that 20 have plume rise and go into the -- are injected into the 21 upper layer of the models. 22 And these emissions have to be processed to make 23 them hourly, gridded and speciated into the chemical 24 species used in the chemical mechanism. And finally, the 25 photochemical grid model itself, in this case, CAMx,	363 1 performance within New Mexico. 2 And then we had the 2014 emissions that were 3 based on the WRAP, 2014v2 emissions. That was, in turn, 4 based on EPA's national emissions inventory from 2014. 5 And then we also had the -- we also used the WRAP, the 6 2028 on the books A2 emissions for all 2028 emissions, 7 except for the New Mexico oil and gas emissions, where we 8 developed new base-case 2028 emissions. 9 We did a model performance evaluation, I'm just 10 going to one slide on that, because there's two reports on 11 that, but we used these standard model performance 12 criteria -- the ozone criteria, and normalized, meaning 13 biased. The goal is within plus or minus 5 percent. As 14 you can see on the right, there's a -- it shows the bias 15 at each site. And when they're gray, they're within plus 16 or minus 5 percent. If they're bright yellow, there's a 17 slight overestimation. And you can see there is a -- you 18 know, we're pretty much within the performance criteria at 19 all of the key monitors or -- so it would be the bright 20 yellow or gray, and it's within the performance goal at 21 most monitors. 22 We did evaluation in subregions looking at 23 Northern New Mexico, Central New Mexico, and Southern New 24 Mexico and found -- we did this with and without the 25 cut-off. That means that with no cut-off, we used all
362 1 simulates the transport, its dispersion, the chemical 2 transformation and deposition of the pollutants within 3 this three-dimensional domain. 4 And there's the simple schematic of the PGM there 5 on the right. Of course, for the NMED Ozone Attainment 6 Initiative, we ran with three nested grid domains of 7 different resolutions, with an outer domain. The Northern 8 American domain had a 36 kilometer resolution. The inner 9 domain, there's a 12 kilometer Western US domain, and 10 those are the exact same domains used by WRAP for the 11 Regional Haze SIPs for the Western states. But then we 12 added a 4 kilometer grid resolution domain that covered 13 New Mexico and surrounding areas. And we covered -- made 14 sure we covered the San Juan Basin oil and gas and the 15 Permian Basin. So we actually went into Texas quite a bit 16 and into the Four Corner domains. So these domains are 17 two-way grid domains, that means that the pollutants flow 18 in and out of them in the CAMx simulation. 19 The boundary conditions that I mentioned were 20 based on the WRAPs 2014 simulation of the geoscanned 21 global chemistry models, so those are the concentrations 22 around the outer edges of the 36-kilometer domain. And 23 then we did -- we actually did two WRF simulations and 24 four WRF meteorological sensitivity tests and we picked 25 the meteorological inputs that gave us the best ozone	364 1 observed and predicted ozone pairs. And with cut-off, we 2 only looked at the high end of the observed distributions 3 so that's only when we observed predicted pairs for ozone 4 greater than 60 ppb. And we always achieved the ozone 5 criteria, and we mostly achieved -- and almost always 6 achieved the ozone goal. It was just the Southern region, 7 without the cut-off, being slightly above the plus or 8 minus 5 percent goal. 9 And the NMOGA expert's modeling agreed that the 10 ozone performance we saw was good or better, as most PGM 11 applications that we've seen. And they agreed that it was 12 a reliable PGM modeling platform for evaluation of control 13 strategies in New Mexico. 14 So, moving to the part of the testimony that is 15 the New Mexico base and control emissions. The 16 differences on the left show the differences in NOx 17 emissions on top and VOC emissions on the bottom, between 18 the 2028 control strategy and the 2028 base-case. On the 19 left is the nonpoint oil and gas emissions. On the right 20 is the point oil and gas emissions. The only difference 21 between the 2028 base-case and the 2028 control strategy 22 was New Mexico oil and gas emissions. 23 And you can see the, you know, the VOC, NOx. You 24 can clearly see the San Juan Basin, and the Permian Basin 25 is showing there. These total emissions reductions in

365 1 that table there between the 2028 base and the 2028 oil 2 and gas control strategy is about a 45-percent reduction 3 in NOx emissions and a 50-percent reduction in oil and gas 4 VOC emissions. And the control strategy only assumed 5 controls in New Mexico. 6 I mentioned the 2028 New Mexico base-case, New 7 Mexico oil and gas emissions, and we projected those to 8 2028 using projected factors provided by BLM. They 9 provided those around September of 2020. In the 2028 10 control case, we did not implement controls. We provided 11 the base-case -- the 2028 New Mexico oil and gas base-case 12 emissions to Eastern Research Group, ERG, and they 13 implemented the controls and sent them back to us, and we 14 processed them for input into the photochemical grid 15 model. And as I mentioned before, the remainder of the 16 2028 emissions were based on the WRAP, the 2028OTBa2 17 scenario, the same scenario used for the Western States 18 Regional Haze SIP. 19 So we followed the EPA guidance for SIP modeling 20 and the recommended procedures for making ozone design 21 value projections, is to use the model in a relative 22 sense. I think Michael Baca talked about ozone design 23 values defined as a three-year average of the fourth 24 highest maximum daily 8 hour ozone concentrations. 25 So, to project and observe ozone design by moving	367 1 70 ppb 2015 Ozone NAAQS, and that's 72.0 at Desert View 2 and 71.3 at Santa Teresa, both in Doña Ana County. 3 In the future year, using this EPA default 4 guidance projection approach, all design values are below 5 the 70 ppb standard, with the highest one being in Desert 6 View, that's 67 ppb, which is right at 95 percent of the 7 NAAQS. And the reductions are anywhere from -2 ppb at 8 Hobbs County, Lea -- the Hobbs monitor in Lea County, and 9 -6.3 in La Union County -- La Union site. 10 This is a -- SMAT also has an unmonitored area 11 test, where it interpolates the base year design value 12 from 2012 to 2016. And then you do projections across in 13 every grid square, and this is a spatial map of 2028. On 14 the left is 2028 base-case ozone design value, and then 15 the differences between the 2028 from the control case and 16 the 2028 base-case. 17 The colder colors are reductions in ozone design 18 values between 2028 base and the 2028 control case. And 19 the warm colors are increases in ozone design values 20 between the -- excuse me -- sorry, this is the 2028 21 base-case and the 2014 base case. I'm getting ahead of 22 myself. So this is the -- so the maximum design value is 23 68 ppb in the 2028 base, and you can see there are 24 increases between 2014 and 2028 projected in those design 25 values in the San Juan Basin and the small spots in the
366 1 forward to the future year, you take the ratio of the 2 modeling results for this case, the 2028 scenario, to the 3 2014 scenario, and this ratio is called the relative 4 response factors. And you use that to scale the observed 5 ozone design value to get a future year ozone design 6 value. And the idea being that, by using the ratio of the 7 future to current year modeling results, you limit some of 8 the uncertainties in the model biases. 9 So we're predicting both in the current year and 10 predicting in the future year, so that ratios out. So you 11 get your future-year design value, the DVF, by just 12 multiplying the current-year design value by the relative 13 response factor. So this is using the model in a relative 14 sense. And the EPA default guidance is to use a current 15 design value based on a five year -- a three-year average 16 of design values, or five years centered on the base 17 modeling year, which was 2014. So we ended up using a 18 base-year design value based on an average design values 19 from 2012 to 2016. So that's DVC -- 2012-2016. 20 And all of these projections were made using the 21 EPA's software for model of attainment tests with the 22 default settings. So for the base -- 2028 base-case, this 23 is a table of projections of the future design values for 24 the 2028 base-case. Based on the 2012 to 2016 current 25 year design values, there are two sites that exceeded the	368 1 Permian Basin, but everywhere else in New Mexico there are 2 reductions because there are large reductions in things 3 like mobile source VOC and NOx between 2014 and 2028. 4 And then we get to the 2028 New Mexico oil and 5 gas control strategies, and these -- this shows the 6 reductions in the 2028 base-case ozone design values due 7 to the implementation of the control strategy. And we see 8 reductions by as much as 1.5 ppb at Navajo Lake and 1.2 9 ppb at Substation, and 0.8 at Bloomfield; those are all in 10 the San Juan Basin. In the New Mexico oil and gas control 11 strategy, the largest reductions of .7 ppb at Hobbs in Lea 12 County and .3 ppb at Carlsbad in Eddy County. So these 13 are reductions in 2028 ozone design value projections. 14 And now, these are the differences in 2028 ozone 15 design values from the 2028 base-case to the 2028 New 16 Mexico oil and gas control case. And you can see that 17 there are large reductions -- on the right there's 18 reductions in the design values; again, cold colors are 19 reductions and we see large reductions in the San Juan 20 Basin up here, with the reductions about as high as about 21 3 ppb. And then there's reductions as high as about, you 22 know, 1 to 1.5 ppb down in the Permian Basin. 23 And I don't know if you can see -- but you can 24 actually see the small pixel of areas of red where 25 actually ozone increased due to the controls -- the oil

369 1 and gas control strategy, and that's due to the NOx 2 disbenefit effects. In other words, if you can control 3 NOx, you can actually increase ozone locally, even though 4 downwind it's going to reduce the ozone. So you can see 5 that in these isolated spots in the Permian Basin and San 6 Juan Basin. 7 Okay. And so, this is looking at the modeling 8 results in a relative sense. We also looked at the 9 absolute modeling results on each day, and this is just 10 examples of the 2028 base on the left; 2028 control case 11 in the middle; and then their differences on the right for 12 two days. The top is June 4th, and that's the day when 13 there's a peak ozone of 74 ppb right on the border of New 14 Mexico and Colorado in the San Juan Basin. 15 And then, when you do the controlled case, that 16 74 ppb goes away and all of the -- there's an area of 17 ozone that's seen in the base case, and that's the yellow 18 color that's stretching into San Juan County and Rio 19 Arriba County, and that goes away with the New Mexico oil 20 and gas control strategy, so that all of the ozone that 21 was above the ozone standard in the base case, is below 22 the standard. That's in the middle, top. 23 And then on the right, you can see the large 24 reductions in ozone, by as much as 6 ppb -- excuse me -- 25 as much as 2.8 ppb reduction. So that's a case in which	371 1 southern -- Southern New Mexico, the ozone design values 2 are going up over time. So, using the third year ozone 3 design value from 2012 to 2016, that's the EPA default 4 approach, does not account for these higher ozone design 5 values in the more current year. So what we did -- and 6 for example, you know, the 2012 to 2014 design value had 7 three sites over the 70 ppb standard; whereas, the more 8 recent 2017 to 2019 ozone design values had six sites over 9 the 2015 ozone NAAQS and three sites actually above the 75 10 ppb 2008 NAAQS. 11 So, the EPA modeling guidance suggests making 12 future-year ozone design value projections using 13 alternatives to the default approach, and one of the 14 things they do mention explicitly in the guidance is to 15 use an alternative to the base-year design value. And 16 we -- we felt this was justified, given this increase in 17 ozone design values over time. So we did this projection, 18 the sensitivity analysis, using the three-year design 19 value based on 2015 to 2019, the five-year period with 20 current design value. 21 In this case we had four sites that were above 22 the ozone NAAQS. And when we did the projection for the 23 base-case there was still one site above the ozone NAAQS, 24 at 71.2 ppb at Doña Ana -- or excuse me -- at the Carlsbad 25 site in Eddy County. And then, for the 2028 New Mexico
370 1 the control strategy reduces ozone on a day that was 2 above -- modeled above the standard on June 4th in the 3 base case, to below the standard in the control strategy. 4 The bottom is July 24th, where the peak ozone was 5 71.3. Again, it's right across the border in Colorado, 6 from New Mexico. And in the control case, the peak is 71 7 ppb, so that just barely exceeds the ozone NAAQS. And on 8 the right, you can see the differences in the ozone 9 concentrations on this day, and it was mostly reductions, 10 especially in the Permian Basin, but there is an area with 11 a 6 ppb increase in the middle of San Juan County. And 12 that's actually the location where the ozone is at 71 ppb 13 in the control case, so that's an indication of the NOx 14 disbenefits. In other words, that's -- a more VOC-limited 15 ozone reduction location because it's seeing the NOx 16 disbenefits occurring there. 17 Okay. So we looked at the sensitivity of the EPA 18 projection approach, to the base-year ozone current year 19 design value. These are the tables, the time series of 20 ozone design values from 2010 -- year ending 2010, to 21 2019. The red are shaded for ozone design values that are 22 greater than the 2008 75 ppb ozone standard. The yellow 23 is above the 70 ppb 2015 ozone standard, and the green is 24 above 95 percent of the 2015 ozone standard. 25 And what we're seeing is that, at least in	372 1 oil and gas control strategy, it actually reduced that 2 71.2 ppb down to 70.9, to below the ozone NAAQS. So this 3 is a case where with this sensitivity analysis, the 4 control strategy was sufficient to reduce the projected 5 ozone design value in the base case that was above the 70 6 ppb ozone standard to below the standard. 7 There are numerous more caveats in doing the 8 sensitivity analysis and uncertainties than the EPA 9 default approach, but this was a -- I felt this was 10 warranted, given the increase in the ozone design values. 11 We also did ozone source apportionment modeling 12 using the 2028 New Mexico oil and gas control strategy 13 emission scenario. We did two different source 14 apportionment runs; one was a source sector source 15 apportionment run to look at the constitutions of source 16 sectors, like natural emissions, fires, oil and gas point 17 sources, oil and gas nonpoint sources, electrical 18 generating U's, other point sources, on-road mobile, 19 nonroad mobile, and other anthropogenic. And then the -- 20 let's see -- we'll call it the APCA of ozone apportionment 21 source sector analysis. 22 Then we did a second CAMx ozone source 23 apportionment analysis called OSAT, which is looking at 24 VOC versus NOx sensitive ozone formation. This provides a 25 measure of whether the ozone formation in New Mexico is

373 1 more sensitive to VOC or NOx conditions. And to display 2 that, I used this percent NOx sensitive ozone formation 3 metrics. So it goes from 0 to 100 percent, and the 4 percent VOC sensitive is supposed to be 100 minus percent 5 NOx sensitive. 6 So the APCA, the ozone source apportionment, was 7 designed to answer the question: What is the ozone 8 contributions of major source sectors in New Mexico to the 9 ozone concentrations under the New Mexico 2028 oil and gas 10 control scenario? Whereas, the OSAT, the VOC/NOx 11 sensitive source apportionment runs, is designed to answer 12 the question what is the relative importance -- the 13 relative sensitivity of ozone formation to VOC versus NOx 14 emissions. 15 So this is the contributions of the various 16 source sectors to the 2028 ozone design value under the 17 oil and gas control scenario. And there's -- we separated 18 the oil and gas into point, nonpoint and point. That's 19 kind of a surrogate, to where nonpoint is more production 20 in upstream oil and gas, while point is more the 21 midstream. But the, you know, the maximum contributions 22 of oil and gas nonpoint is about 3 ppb, and 1.9 ppb. And 23 that's comparable to other major source sectors, like EGU 24 point and on-road mobile, and greater than source sectors 25 like nonroad-mobile and nonEGU point. So even under the	375 1 that 91 percent and 96 percent of the ozone is coming from 2 nonNew Mexico anthropogenic emissions. So that's 3 emissions outside of New Mexico or biogenic emissions 4 within New Mexico. 5 But if you look at the New Mexico anthropogenic 6 emissions contribution and the contribution of oil and 7 gas, 55 percent of the New Mexico anthropogenic emissions 8 ozone contributions is from oil and gas and -- at Navajo 9 Lake and at Hobbs, 71 percent of the New Mexico 10 anthropogenic emissions contribution is due to the oil and 11 gas sources, and Desert View, being further away from the 12 oil and gas basins, it's 20 percent of the New Mexico 13 anthropogenic emissions contributions through the 2028 14 design value under the oil and gas control strategy is due 15 to oil and gas emissions. And these contributions would 16 be even greater in the base-case before the oil and gas 17 emission controls were implemented. 18 This is an example of two days of the OSAT, so 19 this is the VOC/NOx sensitive ozone. And I have a slide 20 to scale here. The ozone formation in New Mexico is 21 mostly NOx sensitive. The scale you see is reddish, and, 22 you know, from orange on up is 85 percent of the ozone 23 formation is NOx sensitive. So that means less than 15 24 percent is VOC sensitive over -- over most of New Mexico. 25 And the one exception to this is that the ozone
374 1 2028 oil and gas control scenario they're still -- still 2 it's one of the major source sectors that are still 3 related to ozone in 2028 under the control strategy. 4 We also did the ozone results from the source 5 apportionment, and this is the -- the left is the maximum 6 ozone contribution for the nonpoint oil and gas and on the 7 right, it's for point oil and gas. And the maximum 8 contributions is 7.6 ppb for the nonpoint oil and gas, and 9 it occurs in the Permian Basin at the intersection of the 10 Eddy, Lea and Chaves Counties. And the maximum 11 contribution of oil and gas point sources is 5.4 ppb, and 12 occurs in just about the same spot, the intersection of 13 three counties. You can see that the nonpoint has a 14 substantial contribution in San Juan Basin, but point has 15 less contribution. 16 So the NMOGA expert had these plots in their 17 direct testimony, and we all agree that a vast majority of 18 the ozone in New Mexico comes from outside of New Mexico 19 or biogenic emissions in New Mexico. And so this is 20 contributions to the 2028 ozone design value from the APCA 21 2028 oil and gas controls -- oil and gas controls source 22 apportionment. And we're seeing that at least at these 23 three sites: Navajo Lake in the San Juan Basin, Hobbs 24 down in the Permian Basin, and Desert View in the Doña Ana 25 County in Sunland that runs along the nonattainment area,	376 1 formation in the San Juan Basin is -- okay, this is -- 2 this is one day, June 5th, but you can see that for all 3 anthropogenic emissions there's a little bit more VOC 4 sensitive-ozone in San Juan County. And for New Mexico 5 anthropogenic emissions, there's a little bit more. 6 You've got the blue, so that's getting down to almost 7 equal the VOC and NOx sensitive. And this scale was 8 picked because ozone formation in the vast majority of New 9 Mexico is more NOx sensitive than VOC sensitive. It isn't 10 an either/or, it's usually both, but this is not 11 surprising given the rural nature of most of New Mexico, 12 it would be mostly NOx sensitive. 13 So the conclusions from the New Mexico Ozone 14 Attainment Initiative Photochemical Modeling Study is that 15 New Mexico oil and gas emissions are estimated to reduce 16 ozone design values at the monitored sites by as much as 17 1.5 ppb; that's at Navajo Lake. And looking across New 18 Mexico, those reductions are as much as 3 ppb -- those 19 reductions in ozone design values and that's in the San 20 Juan Basin. 21 There are larger reductions in maximum daily 22 eight-hour ozone. I gave an example of June 4th, it was a 23 4.6 ppb reduction and for July 24th, a 2.8 ppb reduction. 24 And so the maximum, the highest reduction is 7.5 ppb due 25 to oil and gas nonpoint sources.

377 1 And then the 2028 New Mexico Ozone Source 2 Apportionment Modeling results say most of the ozone in 3 New Mexico is due to sources outside of New Mexico and 4 biogenic emissions. And across all of the sites is 83 5 percent to 99 percent of the ozone. And then in the 2028 6 ozone -- the 2028 design values for the oil and gas 7 control strategy is due to sources outside New Mexico. 8 And although modest New Mexico oil and gas emissions are a 9 major portion of the New Mexico anthropogenic emissions 10 contribution -- as I mentioned, it's 55 percent at Navajo 11 Lake, 71 percent at Hobbs and 20 percent at Desert View. 12 And then, ozone formation in New Mexico is 13 primarily NOx sensitive, with the exception of Northwest 14 New Mexico, which exhibited more VOC-sensitive ozone 15 formation conditions. 16 A few from my rebuttal report: One is 17 Mr. Blewitt states that the NM OAI study did not document 18 the 2014 and 2028 emissions. We did not document -- 19 outside of the 2028 oil and gas emissions that we 20 developed, we did not document those in the air quality 21 technical support document for the Ozone Attainment 22 Initiative because these were taken out of the WRAP 23 Regional Haze inventories, which are some of the most 24 vetted and reviewed and documented inventories ever 25 developed by each one of the Western states. And they're	379 1 mentioned the 55 percent and 70 percent of the 2 anthropogenic emissions at Navajo Lake and Hobbs County. 3 Mr. Blewitt states that the New Mexico oil and 4 gas emissions didn't include production declines, or are 5 overstated, and they are -- it is included. These 6 projections project a collection of wells of various ages. 7 The emissions from a well are highest when they first -- 8 when they first go online and they decline over time, 9 unless they're -- unless they're a refract. 10 So, in 2014, we have a collection of wells of 11 various ages, including some in decline, and then we 12 project those emissions forward using a collection of 13 wells so they still have wells of different ages. So 14 that's why the 2028 oil and gas emissions also have a 15 collection of wells of various ages and various stages of 16 decline. 17 Mr. Blewitt also states that we should have 18 separated values between the oil and gas VOC and NOx 19 controls. It could be done, but we didn't -- but it 20 wasn't, and in some cases, generally we look at control 21 measures as a combined VOC and NOx emissions control 22 because that's just what's done in standard practice. And 23 some control measures will obtain both VOC and NOx 24 emissions reductions, like reducing hours of operation, so 25 it doesn't make sense to look at the separate
378 1 documented on numerous documents and websites and webpages 2 on the WRAP webpage. And that's where the documentation 3 resides for those 2028 and 2014 emissions. That's one 4 point. 5 Mr. Blewitt concluded that the modeling results 6 do not support the need for additional oil and gas 7 controls. From the technical information, you know, which 8 sources you control all in the SIP, I just do the 9 technical work. But some of the observations that -- and 10 facts in this matter is that the observed 2015 to 2019 11 ozone design values exceed 95 percent of the 2015 Ozone 12 NAAQS at all sites in New Mexico except Santa Fe. And the 13 AQCA requires the Board develop a plan to address ozone. 14 And my understanding is that part of these controls are 15 part of that plan. 16 There's a portion of Doña Ana County, that is 17 Sunland Park, it's designated as nonattainment, with an 18 attainment year of 2020 that it failed to achieve, thus 19 the area may be redesignated as moderate to nonattainment, 20 with a 2023 attainment year. And even with the 21 implementation of the Part 50 oil and gas controls, the 22 New Mexico oil and gas emissions are still a major 23 fraction of the New Mexico total anthropogenic emissions 24 contribution, which is the only -- the only sources that 25 the Board has the regulatory authority to control. And I	380 1 contributions. 2 With that being said, the modeling did suggest 3 that ozone formation in New Mexico is mainly NOx 4 sensitive, with the possible exceptions of the San Juan 5 Basin, where there's a little bit more VOC sensitivity, 6 but still, that's mainly NOx sensitive. 7 Also there's some uncertainties in Mr. McNally's 8 attempt to split the oil and gas ozone contributions 9 between VOC and NOx emissions. And I -- I don't doubt his 10 basic conclusion that the NOx -- the oil and gas NOx 11 controls produce the majority of the ozone benefits, but 12 in my rebuttal report, I also listed some uncertainties in 13 his approach, that I don't need to go into details here, 14 but it just increases uncertainties because you just 15 can't -- the way he did it has more uncertainties. 16 And finally, when the ERG implemented the oil and 17 gas controls in the 2028 base-case emissions, they may not 18 have counted the NOx emission increases in some of the VOC 19 controls measures. And McNally suggested that not 20 including the NOx emissions increases, and these control 21 strategies, like flaring, would reduce any ozone benefit 22 from the VOC controls and could worsen the ozone air 23 quality. 24 The ERG provided an estimate of the NOx increases 25 due to the oil and gas VOC controls, and they estimated it

381 1 would increase NOx emissions by 67 tons per year. Now, 2 the ozone formation is nonlinear, I kind of did an 3 order-of-magnitude calculation and found that that 67 tons 4 per year increase in NOx emissions would produce a maximum 5 of about .002 ppb, so on the order of thousandths of a 6 part per billion. 7 And both myself and Mr. McNally's reported ozone 8 results to the nearest tenth of ppb, those increases of 9 NOx emissions in the -- in the oil and gas control 10 strategy would not have any material effect on the -- on 11 the ozone results. In fact, if it was 10 times higher, so 12 67 tons per year, would still have no material effect on 13 the ozone results. 14 And with that, I conclude my testimony. 15 Q. Thank you, Mr. Morris. 16 MR. KNIGHT: Madam Hearing Officer, this 17 concludes Mr. Morris's direct and rebuttal testimony and 18 he is available for questioning. 19 HEARING OFFICER ORTH: Thank you very much. I'm 20 not sure whether the questions would require a look at the 21 slides or not, so I think we'll leave it up for just a 22 little bit. Let me start with Ms. Fox. Ms. Fox, do you 23 have questions of Mr. Morris? 24 MS. FOX: Madam Hearing Officer, I don't, but I'm 25 going to defer to my co-ounsel, David Baake, who may or	383 1 I have no questions for this witness. 2 HEARING OFFICER ORTH: All right. Thank you. 3 Professor Pacyniak or Mr. Jaynes? 4 MR. JAYNES: Thank you, Madam Hearing Officer. 5 No questions at this time. 6 HEARING OFFICER ORTH: All right. Thank you. 7 Ms. Devore or Mr. Vimont? 8 MS. DEVORE: No questions. Thank you. 9 HEARING OFFICER ORTH: Mr. Nykiel or Mr. Timmons? 10 MR. NYKIEL: No questions, Madam Hearing Officer. 11 HEARING OFFICER ORTH: Thank you. Mr. de 12 Saillan? 13 MR. DE SAILLAN: No questions. Thank you. 14 HEARING OFFICER ORTH: All right. Mr. Hiser? 15 MR. HISER: Madam Hearing Officer, we will have a 16 couple of questions for Mr. Morris, please. 17 HEARING OFFICER ORTH: All right. 18 CROSS-EXAMINATION OF RALPH MORRIS 19 BY MR. HISER: 20 Q. So, Mr. Morris, it's good to see you this 21 morning. And thank you for that explanation of the very 22 complicated photochemical grid modeling that you have 23 done. If you could turn to your direct testimony in NMED 24 Direct Exhibit No. 106. And for any of our Board members 25 who might want to follow along, it will be Exhibit 106.
382 1 may not have. 2 HEARING OFFICER ORTH: Thank you. Mr. Baake? 3 MR. BAAKE: I do have just a brief question. 4 HEARING OFFICER ORTH: All right. 5 MR. BAAKE: Thank you so much. 6 CROSS-EXAMINATION OF RALPH MORRIS 7 BY MR. BAAKE: 8 Q. So I did -- I wanted to ask briefly here, as I 9 understood the 2028 control strategy scenario, was based 10 on ER -- ERG's analysis of the rule; is that correct? 11 A. That's correct. I have no opinion on how they 12 implemented that. 13 Q. Okay. So, then, perhaps you're not the person to 14 ask about this, but if -- if there were provisions of the 15 rule that were not fully implemented by 2028, would -- I 16 assume that would affect whether that -- whether those 17 inputs were correct? 18 A. That's correct. I just used the emission 19 reductions that ERG implemented in 2028 in New Mexico oil 20 and gas emissions as they did. So they will be on later 21 this week, so... 22 MR. BAAKE: Okay. Okay. All right. Thank you. 23 No further questions. 24 HEARING OFFICER ORTH: Thank you. Ms. Paranhos? 25 MS. PARANHOS: Thank you, Madam Hearing Officer.	384 1 On page 5 of your testimony you state that, and I 2 quote, "The biogenic VOC may not be the largest source 3 sector, but is usually still a large component of VOC 4 emissions." Does New Mexico include areas where biogenic 5 emissions are the largest component? 6 A. Yes. I would guess that over a majority of New 7 Mexico the biogenic emissions, you know, it's very rural 8 so the biogenic emissions -- VOC emissions would be the 9 largest source sector. It was only in the oil and gas 10 fields and the -- you know, Albuquerque, Las Cruces, in 11 the urban areas where it may not be the largest VOC source 12 sector. 13 Q. Thank you. And you talked a couple of places 14 here about NOx disbenefits. Is there any reason to 15 believe that the aerial extent of NOx disbenefit in New 16 Mexico is very great? 17 A. No. Generally, the -- generally, they're fairly 18 small, they're very isolated to where the source -- the 19 NOx source is located, when you reduce the NOx and the 20 ozone goes up. 21 Q. And in the one example on one of your slides -- I 22 don't -- unfortunately, I don't remember which one, in the 23 San Juan area, does it look like that's partially related 24 to the power plant up in the Four Corners area? 25 A. Yes, you get NOx disbenefits where there's high

385 1 NOx concentrations. And the Four Corners Power Plant was 2 assumed -- some of the units -- I forget -- Unit 4 and 5 3 will still be operating in 2028, so that produces high NOx 4 concentrations. 5 Q. Okay. Now, if we advance to page 11 of your 6 testimony where you're talking about the impacts to 7 proposed Part 50 at the top two sites in the San Juan 8 Basin, I think you said it was negative 1.5 part per 9 billion and negative 1.2 part per billion. But were the 10 results at the other monitors in the San Juan Basin about 11 .8 part per billion or less? 12 A. Yeah. I'm going to mine. 13 Q. Take your time. 14 A. I think it was, yeah. 15 Q. Oh, it's page 11. Sorry, it's page 11. I 16 misspoke. I misled you. I'm sorry. 17 A. In the San Juan Basin it's -- yes, .8 ppb to -1.5 18 ppb. 19 Q. Okay. And similarly, you state that the results 20 of the proposed Part 50 rule in the Permian Basin were 21 negative 7 or negative .7 part per billion at Hobbs, 22 negative .3 at Carlsbad; but aren't the results, negative 23 .2 part per billion, are less elsewhere within the 24 Permian?	387 1 A. Yes. 2 Q. On pages 14 and 15, you testify about the model 3 emissions inventory that you used, acknowledging that you 4 did not develop this inventory, at least in part. I know 5 that Ramboll has been integrally involved with the Western 6 Regional Air Partnership in developing the overall 7 inventory. But based upon the evaluation of what was 8 provided to Ramboll, was it consistent in quality and 9 depth with emissions inventories that have usually relied 10 upon government agencies and the Western Regional Air 11 Partnership in emissions forecasted? 12 A. I believe so. I didn't catch some of that 13 questions because I had some background noise here. 14 Q. I'm sorry, I can repeat it for you if you'd like. 15 A. Thank you. 16 Q. So, on pages 14 through 15, you testify about the 17 model emission inventory that you used, and acknowledging 18 that Ramboll did not develop this inventory, based upon 19 your evaluation of what was provided to Ramboll, is it 20 consistent in quality and depth to the emissions' 21 inventories usually relied upon by government agencies and 22 the Western Regional Air Partnership in emissions 23 forecasting? 24 A. Yes. 25 Q. In Figure 4 on page 19 of Exhibit 106, do you
386 1 A. Those are the only two monitors in the Permian 2 Basin were Hobbs and Carlsbad. 3 Q. So the other -- the other monitors there are the 4 balance of Southern New Mexico -- 5 A. Yes. 6 Q. -- in your report? 7 A. Yes, in Lea and Doña Ana County. 8 Q. In page 12 of your testimony, am I correct in 9 reading that the proposed Part 50 rule perhaps contributes 10 6.5 part per billion to local ozone concentrations in San 11 Juan County, causing a NAAQS exceedance on one day that 12 might not have otherwise have occurred? 13 A. Yes, that was in my -- my presentation I just 14 made. 15 Q. Does EPA distinguish between a state control 16 strategy-caused exceedance and any other type of 17 exceedance, assuming that the control strategy exceedance 18 is ineligible for classification as an exceptional event, 19 in determining whether an area goes into nonattainment? 20 A. Nonattainment is based on monitoring data, not 21 modeling data. And the monitoring data does not 22 distinguish -- well, does not tell you where the ozone 23 came from, it's just a measured value. 24 Q. It's just a measured value, regardless of the 25 source?	388 1 know from your just general study of this area, what the 2 biogenic VOC emissions would be on the same tons per day 3 basis, approximately? 4 A. I can find that information, but I don't have it 5 off the top of my head. It would be probably much higher 6 than these -- 7 Q. Okay. 8 A. -- because that's statewide. 9 Q. And then on Table 3 on page 20, the same 10 question: What would the biogenic VOC emissions be on a 11 tons per year basis? 12 A. I don't have that information off the top of my 13 head. I believe Mr. McNally had that in his report and 14 it's probably going to be in the air quality technical 15 support document of the Ozone Attainment Initiative. 16 Q. Would it likely be higher than the numbers that 17 you're seeing there? 18 A. Yeah. Yes, because New Mexico is mostly rural. 19 Q. The question for you, then, more generally on the 20 chemical relationship in the formation of ozone, does NOx 21 preferentially select anthropogenic VOCs over biogenic VOC 22 or will it simply react with whatever VOC is available? 23 A. Well, the reaction -- the total VOC -- and it 24 doesn't distinguish between anthropogenic and biogenic, 25 but it does -- some compounds are more reactive than other

389 1 VOC compounds. 2 Q. Right. There's a sort of a scale of reactivity? 3 A. Yes. 4 Q. So if we exclude the biogenic VOC in these 5 charts, does that have the apparent effect of flattening 6 the impact of the rule, when much of the inventory is 7 simply being unaffected and unchanged? 8 A. Well, the only -- the only emission you can 9 control are the anthropogenic emissions. You can't 10 control the biogenic emissions. So, you know, the rule -- 11 the rule's going after the anthropogenic New Mexico 12 emissions, which is the only thing you can control. 13 Q. So if I circumscribe a circle of 100 marbles and 14 say that I can only choose between these four marbles, and 15 I choose two of those marbles, that's basically the -- 16 what you're saying here? 17 A. In terms of -- 18 MS. KATZ: I believe that Mr. Morris said that -- 19 that it didn't distinguish between anthropogenic and 20 biogenic. 21 MR. HISER: Madam Hearing Officer, Mr. Morris 22 said that he limited the discussion to what was within his 23 perception of the Department's jurisdiction. And I was 24 saying if you simply do that, doesn't that cause the 25 number to go up.	391 1 formulations, or emissions or the meteorology, to provide 2 sort of a correction factor? 3 A. Yes, it uses the relative change in the model 4 results so that if you have an -- for example, if you have 5 an overestimation, it's probably in the base in the future 6 year, and by taking the ratio you kind of figure that out. 7 Q. In page 41 of your testimony in Table 5, do you 8 agree that looking across the monitors the impact of the 9 proposed Part 50 rule appears generally greater in the San 10 Juan Basin than in the Permian Basin? 11 A. That's correct. 12 Q. In Section X of your report -- and this is 13 section Roman Numeral X, which is called Sensitivity of 14 the 2028 Ozone DVF Projections, The Current Year Ozone 15 DVC, isn't it true that you're no longer using the model 16 in a relative sense here, but now you're starting to use 17 it in an absolute sense? 18 A. No, this is section -- you're talking about 19 Section X? 20 Q. Section X, yes. 21 A. 8.6. No, this is the 2028 ozone design value 22 projection sensitivity test to the current year design 23 values. So, instead of using the design -- the current 24 year design values from 2012 to 2016, I used the current 25 year design value from 2015 to 2019.
390 1 HEARING OFFICER ORTH: All right. Mr. Morris, do 2 you understand the distinction being made by both your 3 counsel and Mr. Hiser? 4 A. Yes. I'm not sure if the analogy is a good one, 5 but, you know, I will say that there is more biogenic VOC 6 in New Mexico than there is anthropogenic VOC emissions. 7 Q. (BY MR. HISER) Thank you, Mr. Morris. 8 And then page 32 of your testimony -- and my 9 apologies to the Board for now sinking into jargon: You 10 discussed the 2018 -- and you variously referred to it, I 11 think, as the 2018 PCM or PGM guidance. Which is the 12 proper acronym so I use it correctly with you throughout? 13 A. Well, the 2018 EPA guidance is for ozone PM25 and 14 Regional Haze SIPs, so you call it the ozone modeling 15 guidance. 16 Q. Okay. And then, is there also photochemical grid 17 model guidance? 18 A. Well, that is the same thing. 19 Q. Oh, that is the same one. Okay. 20 So -- so we'll just call that the 2018 EPA 21 guidance for now. Does that guidance use relative 22 response factor, or RRF? 23 A. Yes, that was what I presented in my testimony. 24 Q. And is part of the purpose of that RRF to adjust 25 for sort of unknown and unknowable emissions and model	392 1 Q. So in your testimony where you -- where you state 2 that you're now using certain values in an absolute sense, 3 what does that mean? 4 A. That means that they're going to be in the 2028 5 CAMx modeling results in an absolute sense, you know, as 6 they come out of the model, not in the relative sense, to 7 project those design values. 8 Q. So you're not -- it didn't go back and look at 9 the monitored differences in the past in this case? You 10 just used the straight model results? 11 A. Yes. 12 Q. Okay. Are the high ozone -- and I'm going to 13 backup and ask you sort of a more general question here. 14 Are the high ozone days that are projected in the work 15 that you've done, are they the same at each monitor or do 16 they vary across the monitors? 17 In other words, is it the same ten days at each 18 one or are they often a mix of days across the monitors? 19 A. No, it can vary across the monitors because 20 there's two monitors in close proximity. They may have 21 many of the same days, but these relative response factors 22 I mentioned are based on ten days, and they're likely 23 different days for, like, monitors up in the San Juan 24 versus monitors in the Permian Basin. 25 Q. Okay. And do you continue to agree that the CAMx

393 1 OSAT simulation estimates that ozone formation due to New 2 Mexico anthropogenic emissions is primarily NOx sensitive 3 across most of New Mexico, with the exception of the few 4 instances you've noted in the San Juan and even fewer in 5 the Permian Basin? 6 A. It's mostly NOx -- NOx sensitive across most of 7 New Mexico, and the possible exception in San Juan County 8 and there are some VOC limited, you know, small amounts of 9 VOC sensitive ozone elsewhere, too. 10 Q. And then, you never ran the model just looking at 11 NOx only or VOC only controls, right? You did different 12 ways of it, but you didn't just run the model with the NOx 13 or the VOCs? That was your testimony earlier. Did I 14 understand that correctly? 15 A. Yes. 16 Q. Why not? 17 A. Because we were looking at the control strategy 18 that was a collection of control measures that controlled 19 both VOC and NOx at the same time. 20 Q. Okay. You didn't think that there would be value 21 in trying to further tease out the relative sensitivities 22 of NOx and VOC? 23 A. Not in the time frame that we had to do the 24 study. 25 Q. Okay. Thank you. With that, I'd like to switch	395 1 Q. (BY MR. HISER) Okay. So why did you -- 2 MS. KATZ: Do you mean his testimony where he's 3 identifying all of those provisions specifically? 4 MR. HISER: He states that it's not appropriate 5 to look at -- to look at parsing away the VOCs, implying 6 that we are suggesting that no VOC controls are 7 appropriate. And I'm just asking if he considered what 8 was actually in the record before he made that statement. 9 HEARING OFFICER ORTH: Which page of his 10 testimony? I'm sorry. 11 (Unintelligible.) 12 HEARING OFFICER ORTH: Hold on. Mr. Hiser, you 13 did refer to his rebuttal testimony, which is NMED 14 Rebuttal Exhibit 11, but which page are you looking at? 15 MR. HISER: Page 3, Madam Hearing Officer. 16 HEARING OFFICER ORTH: I'm sorry? 17 MR. HISER: Page 3. 18 HEARING OFFICER ORTH: Page 3. Thank you. 19 A. I don't think I ever characterized Mr. McNally as 20 promoting a no-VOC control strategy. 21 Q. (BY MR. HISER) All right. Fair enough. 22 In Section 2.3 of your rebuttal testimony on page 23 6, you state that Mr. McNally's analysis using the APCA 24 data which Ramboll provided has some uncertainties and 25 possibly is unreliable. Wasn't Ramboll's choice of
394 1 over to your rebuttal testimony. 2 And Mr. Morris and Board members, that would be 3 NMED Rebuttal Exhibit No. 11. Let me know when you've got 4 that in front of you. 5 A. I've got it. 6 Q. Perfect. Thanks. In page 3 of your rebuttal, 7 you state that it's standard practice to regulate both VOC 8 and NOx, in critiquing Mr. McNally's testimony, sort of 9 implying that Mr. McNally was advocating a no-VOC control 10 strategy. Does industry support of a phase out of the 11 high bleed pneumatic devices within two years, a phase out 12 by 2030 of most other pneumatic devices, new controls on 13 existing storage tanks exceeding 6 tons per year, new 14 tanks 2 tons per year, leak detection repair requirements 15 on well sites and gathering and boosting stations, pig 16 launchers and receivers and hydrocarbon liquid transfers 17 sound like a no-VOCs control strategy to you? 18 MS. KATZ: Objection. Mr. Morris wasn't involved 19 in any of the testimony regarding, you know, or the 20 analysis and the actual rule requirements. 21 MR. HISER: I'm asking him directly for his 22 testimony, Ms. Katz. 23 A. I don't have an opinion on how the rule was 24 implemented in the 2028 New Mexico oil and gas emissions 25 because that was done by ERG.	396 1 modeling approach, which processed the data using the APCA 2 protocols without preserving the previously -- the 3 previous data, what precludes Mr. McNally from being able 4 to make that analysis without a compromised data? 5 A. I listed several -- several points that led to 6 uncertainties in the way Mr. McNally processed the APCA 7 results to get the separate ozone contributions due to the 8 controlled oil and gas VOC and NOx emissions. One of them 9 is that it was the oil and gas control strategy, so it 10 wasn't the base case. Another is the use of the APCA 11 ozone tool. That doesn't preserve the ozone and VOC/NOx 12 sensitivity. It has a preferential treatment of that. 13 You should use the OSAT tool for that. 14 Q. Yeah, but I mean, wasn't it Ramboll that ran the 15 APCA analysis overall -- 16 A. Yes. 17 Q. -- and provided the data, then, to Mr. McNally? 18 A. Yes. 19 Q. Okay. So that was really -- he used the data 20 that was available to him; is that correct? 21 A. That's correct. 22 Q. Okay. 23 A. He could have run his own analysis. 24 Q. By rerunning the entire model? 25 A. Yes.

397 1 Q. Isn't it true, Mr. Morris, that despite your 2 quibbles with Mr. McNally's statement, that you still 3 concede on page 8 of your rebuttal testimony, Lines 15 to 4 17: That there's no question that the modeling 5 indications that ozone formation in New Mexico is more NOx 6 sensitive than VOC sensitive, and it's likely due to that 7 a majority of the ozone benefits Part 50 shown in the 8 modeling are due to the NOx emissions reductions? 9 A. I think I just testified to that fact. 10 Q. And you don't -- and you have no reason now to 11 disagree with that prior testimony that you've made? 12 A. Yeah, probably most of the ozone reductions are 13 due to the NOx emission reductions, although VOC emission 14 reductions -- those ozone reductions are not zero. 15 Q. Okay. So does that mean that for most days that 16 controls on NOx on a ton-for-ton basis are going to be 17 more effective than controls on VOC on a ton-for-ton 18 basis? 19 A. That would be what I expect. We didn't analyze 20 that explicitly. 21 Q. In page 9 of your rebuttal, with regard to the 22 possible NOx emissions increase from -- resulting from the 23 controls that were contemplated under the Part 50 rule, 24 isn't it true that you really offered no opinion on the 25 accuracy of ERG's estimated emissions reductions, on this	399 1 work that you've done on this, it's really an impressive 2 amount of analysis. 3 That's all my questions, Madam Hearing Officer, 4 for Mr. Morris. 5 HEARING OFFICER ORTH: Thank you so much. 6 Mr. Rose, do you have questions of Mr. Morris? 7 MR. ROSE: I do, Madam Hearing Officer. Just -- 8 hopefully just one since Mr. Baake had questions that 9 related to what I was going to ask. 10 CROSS-EXAMINATION OF RALPH MORRIS 11 BY MR. ROSE: 12 Q. Mr. Morris, in terms of the analysis that you 13 did, or the run that you did with respect to the ozone 14 initiative, it was -- as I understood your testimony, you 15 were given a set of reductions based on this rule, and 16 that's the only option that you looked at in terms of the 17 modeling; is that correct? 18 A. Well, we ran three scenarios -- the 2014 base 19 case, the 2028 base case, and this 2028 New Mexico oil and 20 gas emissions control case, and that's the only control 21 case we ran. 22 Q. Okay. Did that any -- any other options would 23 have been requested, and then, I take it, questions about 24 why this particular ozone control case, as opposed to 25 others, was modeled, we'd have to ask ERG about that?
398 1 topic? 2 A. Yes, I do not have opinion on ERG's emissions 3 reductions from the New Mexico oil and gas emissions. 4 Q. And by including that ERG rebuttal in your 5 summary on the last slide today, are you now adopting the 6 ERG approach, despite your earlier offering of no opinion 7 on that analysis, or do you continue to offer no opinion 8 on that analysis? 9 A. That analysis was if -- assuming that the ERG's 10 NOx emissions increases due to the controls is 67 tons per 11 year, that would have no material effect on our results or 12 even if it was 670 tons per year, it would have no 13 material effects on the ozone results presented by myself 14 or Mr. McNally. 15 Q. Finally, on page 19 of your rebuttal, you state 16 that "The observed 2017 to 2019 ozone design values exceed 17 95 percent of the 2015 ozone NAAQS at all monitoring sites 18 in New Mexico except Santa Fe." Is that true of Rio 19 Arriba monitoring site, if you'd considered the 2018 to 20 2020 design value? 21 A. I did not look at that, but I believe Michael 22 Baca testified to that effect yesterday. 23 MR. HISER: Okay. Thank you very much, 24 Mr. Morris. As always, it's informative and good to speak 25 with you about modeling issues. Thank you so much for the	400 1 A. Yeah, I think you'd have to ask New Mexico 2 Environmental Division as well as ERG. 3 MR. ROSE: Okay. That's all the questions I 4 have, Madam Hearing Officer. 5 HEARING OFFICER ORTH: All right. Thank you, 6 Mr. Rose. 7 Mr. Janoe? 8 MR. JANOE: No questions, Madam Hearing Officer. 9 HEARING OFFICER ORTH: Thank you. Mr. Butzier? 10 MR. BUTZIER: No questions. Thank you. 11 HEARING OFFICER ORTH: Thank you. Ms. Gutierrez? 12 MS. GUTIERREZ: No questions. Thank you. 13 HEARING OFFICER ORTH: Thank you. Mr. Neumann? 14 MR. COLCLASURE: This is Chris Colclasure for the 15 Commercial Water Group, we have no questions. 16 HEARING OFFICER ORTH: All right. Thank you, 17 Mr. Colclasure. 18 And Ms. Witherspoon? 19 MS. WITHERSPOON: No questions. 20 HEARING OFFICER ORTH: All right. Thank you very 21 much. I'm going to turn to the Board members now to see 22 if they have questions. If there's anyone else with 23 questions who is not a panelist, please reach out in the 24 Chat. 25 EXAMINATION BY THE BOARD OF RALPH MORRIS

401 1 HEARING OFFICER ORTH: Madam Chair, do you have 2 questions of Mr. Morris? 3 CHAIRPERSON SUINA: Thank you, Madam Hearing 4 Officer. At this point I don't have any questions, but I 5 do want to just thank the witness for -- for his extensive 6 work that they've -- that he's presented and also the 7 slides that have been very helpful. Thank you. 8 HEARING OFFICER ORTH: All right. Thank you. 9 Madam Vice-Chair Trujillo-Davis, do you have questions of 10 Mr. Morris? 11 VICE-CHAIR TRUJILLO-DAVIS: Yes, thank you, Madam 12 Hearing Officer. I do have a couple of questions. And I 13 just want to start off by thanking Mr. Morris also for his 14 presentation. It helps digest a lot of this information, 15 so thank you for that. 16 So I have some just kind of basic questions about 17 this. Mr. Morris, have you run this type of modeling in 18 the past for any other rules that were going to be 19 promulgated? 20 MR. MORRIS: In other locations? 21 VICE-CHAIR TRUJILLO-DAVIS: Yes, sir. 22 MR. MORRIS: Yes, I've done ozone SIP modeling 23 for somewhere between 10 and 20 cities, and that includes 24 the Denver Ozone SIPs dating back to 20 -- back to 2003. 25 And, for example, they have a Reg 7 oil and gas rule that	403 1 or something, and that year comes around and the 2 meteorology is actually different, and, like, for Denver, 3 we had a 2020 ozone attainment date, and when 2020 came 4 around, not only was the meteorology different, the 5 emissions were very different due to the COVID. So 6 it's -- the future year assumes the same meteorology range 7 as the current year, so -- so it's hard to do that, but 8 there are some retrospective studies that have looked at 9 that. 10 VICE-CHAIR TRUJILLO-DAVIS: And I don't know if 11 you can answer this, because it's probably a pretty big 12 question, but how -- when you look at those retrospective 13 studies, how accurate are you? I mean, statistically, 14 like, are you within some level of accuracy or is it 15 outside of that -- of that value? 16 MR. MORRIS: Well, in the past it was -- you 17 know, there was sometimes it was higher, sometimes it was 18 lower. More recently, we're seeing that the observed 19 ozone is higher than what we projected and to be -- and 20 part of that reason is due to climate change. Summers are 21 hotter, they have more -- they're more conducive to ozone 22 formation than in the past, so they produce more ozone 23 just because the meteorology is different. 24 VICE-CHAIR TRUJILLO-DAVIS: Would you -- would 25 you be able to maybe look at the effectiveness of those
402 1 we have modeled. And so -- and I've done it for many 2 other locations throughout the U.S. 3 VICE-CHAIR TRUJILLO-DAVIS: And you use -- and 4 you used similar constraints when modeling those ones and 5 the ones for the current rules we're looking at right now? 6 MR. MORRIS: Yes. Generally, we look -- for an 7 ozone SIP, we do kind of an iterative process of controls, 8 see what the result is, and see whether we need more 9 controls. And this is -- this was kind of a mini SIP, in 10 that the time frame, you didn't look at, you know, all 11 other controls. Like, for example, we only looked at the 12 oil and gas control strategy. We didn't look at mobile 13 source or industrial source controls outside of the 2028 14 base case. 15 VICE-CHAIR TRUJILLO-DAVIS: And after those rules 16 were promulgated, have you ever gone back and looked at 17 that modeling and how it matches up to the real world 18 conditions after those rules have been in effect for a 19 while? 20 MR. MORRIS: Yeah, we've done that a couple -- a 21 couple of times. The problem is that you model future 22 year, you're assuming that -- in this case, we assumed the 23 2014 meteorology occurred in 2028, and usually meteorology 24 affects ozone greatly, so that when, like, a lot of areas 25 had -- like in 2007 -- or 20 -- or a 2017 attainment date	404 1 previous rules, based on retrospective modeling? 2 MR. MORRIS: You could. You can't predict future 3 meteorology. I mean, this has been a -- the affects on 4 climate change on ozone has been, you know, it's known 5 that when you get hotter summers, you get more ozone. 6 It's called the climate penalty, which means that an ozone 7 control plan developed under current climate conditions 8 may be insufficient in the future under climate change. 9 So, factoring that in -- you have to factor that into the 10 evaluation. 11 VICE-CHAIR TRUJILLO-DAVIS: So the current -- the 12 modeling that you used in this one and the -- and the 13 meteorology conditions that were used, could you change 14 those conditions so that they had, like, worst case 15 scenario and we could see -- I mean, I'm not asking you to 16 do any of this. I'm just trying to get a sense of, can -- 17 can a modeling go in that direction, where you change 18 meteorology conditions, and they're a little more headed 19 the direction that you're saying that we're going, with 20 increasing temperatures in the summer? 21 MR. MORRIS: It's -- you can't do it. It's very 22 complicated. You have to downscale climate model to 23 your -- in this case, a work model. It's just a very 24 complicated and intensive thing to do correctly. 25 VICE-CHAIR TRUJILLO-DAVIS: And where do you get

405 1 your parameters for that meteorological data? 2 MR. MORRIS: Well, we use the Weather Research 3 Forecast model. And it's like a numerical weather 4 prediction model -- well, it is a numerical weather 5 prediction model. And it ingests observed analysis fields 6 because we're doing retrospective modeling; we're modeling 7 an historical situation, so it does data simulation of 8 observations so that you match the current meteorology for 9 that year; in this case it was 2014. 10 VICE-CHAIR TRUJILLO-DAVIS: Okay. Thank you for 11 indulging my questions. I appreciate it and I appreciate 12 all the work that you did on this. 13 MR. MORRIS: Thank you. 14 HEARING OFFICER ORTH: Thank you. 15 Member Cates, do you have questions of Mr. Morris? 16 BOARD MEMBER CATES: No questions. Thank you. 17 HEARING OFFICER ORTH: Thank you. Member Bitzer? 18 BOARD MEMBER BITZER: A couple of quick 19 questions. Thank you, by the way, for a -- for a very 20 thorough presentation. Your credentials are impressive. 21 The one year slides had the little red dots, 22 where you were actually having in the -- I guess due to 23 mitigation equipment, there was little spots where the 24 number actually goes up. Would it be safe to assume that 25 those little red dots are away from population centers?	407 1 HEARING OFFICER ORTH: Are you done, Member 2 Bitzer? 3 BOARD MEMBER BITZER: (Holding thumbs up.) 4 HEARING OFFICER ORTH: Okay. Member Garcia? 5 BOARD MEMBER GARCIA: Yes, Madam Hearing Officer, 6 I do have a question for Mr. Morris. Thank you, sir, for 7 your -- for your presentation. My question is regarding 8 the factors and parameters you took into account into this 9 modeling. I know you took into account increased 10 temperatures with climate change, et cetera, and the 11 production of ozone due to that. Also, projections of oil 12 and gas activity, you know, for the next seven, eight 13 years, et cetera. 14 Did you also take into account out of state 15 sources and what projections might be for Texas, for 16 instance, or influences of activity in Mexico? I know 17 that Doña Ana is a nonattainment area, and some believe 18 that much of that could be due to activities in Mexico, so 19 that has a big influence on nonattainment or could have a 20 big influence on nonattainment. So I'm wondering how you 21 factored in the out-of-state sources? 22 MR. MORRIS: Well, first, I -- for the climate 23 change, we assumed that the 2028 meteorology was the same 24 as 2014, so we did not factor in increased temperatures. 25 We did -- for the New Mexico oil and gas, we did get 2028
406 1 Those are -- or could those be co-located little red dots 2 with urban areas? 3 MR. MORRIS: Well, those little areas of ozone 4 increase is due to the New Mexico oil and gas controls are 5 probably located at a NOx point source -- oil and gas NOx 6 point sources. And so, you know, I don't know the layout 7 of the oil and gas point sources and the -- and the 8 population, but it's probably away from a population 9 center, but there could be a residence nearby, I just 10 don't know. 11 BOARD MEMBER BITZER: And then it seems to me 12 that where an enormous portion of our -- of our issue is 13 outside of our control, and that we're working within that 14 narrow band that we have some influence over. Would it be 15 possible, if we keep getting hotter and we stay warm 16 longer, that we could turn all of the oil and gas off in 17 New Mexico, no mining, no extraction whatsoever, and still 18 end up in nonattainment? 19 MR. MORRIS: It's possible that you -- that you 20 will get ozone exceedances and potentially nonattainment 21 due to sources outside of New Mexico. There are a few 22 provisions in the Clean Air Act to address that. There's 23 the Good Neighbor policy and also Section 179 B, 24 international emissions, but for demonstration, that you 25 can do.	408 1 activity projections in New Mexico from the Bureau of Land 2 Management. And then for the sources outside of New 3 Mexico, we used the WRAP 2028 on the books emissions 4 scenario, so that's just -- that would be control 5 strategies measured that are on the books as of when they 6 made that emission inventory, which was probably a 7 year-and-a-half ago. So it included, you know, future 8 year controls on Texas sources, like, on mobile source 9 emissions. 10 For Mexico, I can't remember what the assumptions 11 were there, but those emissions are much more uncertain 12 than those in the U.S. 13 MEMBER GARCIA: Thank you. That's all my 14 questions, Madam Hearing Officer. Thank you. 15 HEARING OFFICER ORTH: All right. Thank you. I 16 believe I heard you say that was all of your questions. 17 Member Honker, do you have questions for 18 Mr. Morris? 19 MEMBER HONKER. Yes, thank you. And Mr. Morris, 20 I'd like to join my fellow Board members in thanking you 21 for the excellent presentation. Just one question. I 22 was -- I was a bit unclear on the point source -- point 23 source versus nonpoint source differentiation. Could you 24 elaborate a little bit on that, in terms of what you 25 considered a point source versus nonpoint?

409 1 MR. MORRIS: Okay. Well, the -- the nonpoint 2 sources are mainly the -- those sources at the well, so 3 these would be the upstream emissions at the well's sites. 4 And then the point sources will be, you know, sources that 5 have, like, a large compressor or a gas plant, so those 6 would be surrogate for the midstream sources. And so we 7 separated those out to try to get the separation of the 8 mainly upstream sources from the midstream sources. 9 MEMBER HONKER: Okay. That's helpful. Thanks. 10 I have no other questions. 11 HEARING OFFICER ORTH: Thank you, Member Honker. 12 Mr. Knight or Ms. Katz, will there be any 13 redirect? I don't see anyone reaching out through the 14 Chat to ask a question. Will there be redirect? 15 Mr. Knight? 16 MR. KNIGHT: Madam Hearing Officer, no, we have 17 no redirect for this witness. 18 HEARING OFFICER ORTH: Okay. Thank you very 19 much. Is there any reason not to excuse Mr. Morris? 20 MR. KNIGHT: None that I'm aware of. 21 HEARING OFFICER ORTH: All right. Thank you very 22 much, Mr. Morris, for your testimony. 23 MR. MORRIS: Madam Hearing Officer, can you 24 unshare me because I'm not sure how to do that in Webex. 25 HEARING OFFICER ORTH: Yes, I will do that right	411 1 the numbers? 2 HR. HISER: Yes, it is NMOGA A1 through A6, B 3 Hearing version, then NMOGA's 1 through -- count all the 4 way to the end -- 46. 5 HEARING OFFICER ORTH: Thank you. 6 MR. HISER: 47 Hearing version, and then 48 7 through 56. 8 HEARING OFFICER ORTH: 48 through 56, terrific. 9 My understanding is there were no objections to those, so 10 unless someone speaks up right now? All right. Those are 11 all admitted. Thank you very much. 12 (NMOGA Exhibits A1-A6, Revised B received into 13 evidence at this time.) 14 (NMOGA Exhibits 1-46, Revised 47, 48-56 received 15 into evidence at this time.) 16 HR. HISER: Thank you, Madam Hearing officer. If 17 we could bring Mr. Dennis McNally. 18 HEARING OFFICER ORTH: I believe I already made 19 him a panelist. 20 HR. HISER: So, Dennis, if you're with us, if you 21 could turn your video on and announce your presence. 22 MR. McNALLY: Hi, this is Dennis McNally. Can 23 you hear me okay? 24 HEARING OFFICER ORTH: Yes. Dennis is the 25 standard spelling. Would you spell McNally, please, and
410 1 now. We're going to take a break. I think this is a good 2 time for the break. And let's take 15 minutes and come 3 back at -- that would be 10:55. Yes, 10:55. 4 (Recess taken from 10:40 a.m. to 10:55 a.m.) 5 HEARING OFFICER ORTH: Ms. Katz or Mr. Knight? 6 Oh, I see Mr. Hiser on screen. Mr. Hiser? 7 MR. HISER: Thank you, Madam Hearing Officer. I 8 had a procedural question before we began with 9 Mr. McNally. 10 HEARING OFFICER ORTH: All right. 11 HR. HISER: Do you want us to move the admission 12 of all of the NMOGA exhibits at this time? Was that sort 13 of the agreement on how we're going to do this? 14 HEARING OFFICER ORTH: I think that would be -- 15 that would be best. I didn't see objections to the NMOGA 16 exhibits. 17 HR. HISER: So I think that the one correction 18 that we would have is that we filed revised Hearing 19 Exhibits B and revised Hearing Exhibits 47, to be the ones 20 for use during the hearing. That is the redlines with 21 just the redlines. 22 HEARING OFFICER ORTH: Yes. 23 HR. HISER: So with that, I would move the 24 admission of the NMOGA exhibits. 25 HEARING OFFICER ORTH: Would you give us all of	412 1 keep your voice up? 2 MR. McNALLY: Yes. Thank you. It's McNally, M-C 3 cap N-A-L-L-Y. 4 HEARING OFFICER ORTH: Thank you. Raise your 5 right hand. Do you swear or affirm that you will tell the 6 truth? 7 MR. McNALLY: I do. 8 HEARING OFFICER ORTH: Thank you very much. 9 You're -- you're a little quiet. Am I the only one who 10 thinks you're a little quiet? No. The court reporter 11 also thinks you're a little quiet. 12 MR. McNALLY: I'll speak up. Thank you. 13 HEARING OFFICER ORTH: All right. Thank you very 14 much. And do you need screen presentation privilege? 15 MR. McNALLY: I would, please. 16 HEARING OFFICER ORTH: All right. I'll work on 17 that while Mr. Hiser introduces you. 18 DENNIS McNALLY, 19 having been first duly sworn or affirmed, was examined 20 and testified as follows: 21 DIRECT EXAMINATION OF DENNIS McNALLY 22 BY MR. HISER: 23 Q. Mr. McNally, can you please state what your 24 educate -- or what involvement is in this proceeding? 25 A. So I am -- have reviewed the photochemical grid

413 1 modeling conducted by -- for NMED on behalf of NMOGA. 2 Q. Okay. And they're ask -- I see hands up against 3 ears. 4 A. Okay. Sorry. 5 Q. Why don't you say that again just to make sure 6 the court reporter got it? 7 A. Yeah. I reviewed the photochemical grid modeling 8 conducted by NMOGA -- conducted by NMED on behalf of 9 NMOGA. 10 Q. Okay. And was part of that work looking at the 11 work that was done by Ramboll that Mr. Morris just 12 testified to? 13 A. That's correct. 14 HEARING OFFICER: Mr. Hiser, I'm sorry to 15 interrupt, but the Board members really would like to be 16 able to reach for the right exhibit. 17 MR. HISER. Ah, thank you, Madam Hearing Officer. 18 Q. (BY MR. HISER) So the exhibit that you're going 19 to be speaking to is NMOGA Exhibit No. 32; is that an 20 accurate copy of your resume? 21 A. It is. 22 Q. And then is your testimony found in NMOGA 23 Exhibits A4 and 45, which reflects your direct and 24 rebuttal testimony? 25 A. They are.	415 1 University of Colorado and a Master's degree in 2 Atmospheric Sciences from the University of California. 3 I've been doing photochemical modeling since -- well, I've 4 worked on modeling developments from '85 to '87, and been 5 working on model applications of photochemical grid models 6 and the weather models, the meteorological models that 7 drive those models continuously since 1987. 8 Q. Have you prepared a summary of your direct and 9 rebuttal testimony? 10 A. I have. 11 Q. And those are the aforementioned Exhibits A4 and 12 45? 13 A. That is correct. 14 Q. Okay. Have you prepared a summary of this -- of 15 those exhibits and testimony? 16 A. I have. 17 Q. Would you like to provide that summary to the 18 Board at this time? 19 A. I would, please. 20 Q. Please proceed. 21 A. Can everybody see the presentation? 22 Q. Yes. 23 A. Okay. Thank you. 24 So, in my presentation I am building kind of on 25 top of the presentation that Ralph just gave. As always,
414 1 Q. And then, do you wish to make any modifications 2 to your prefiled or rebuttal testimony? 3 A. I do not. 4 Q. Okay. And then you're also going to be relying 5 on information found in NMOGA Exhibit No. 1. That's the 6 New Mexico Ozone Attainment Initiative Photochemical 7 Modeling Study; is that correct? 8 A. That's correct. 9 Q. And emission -- Exhibit 49, the EPA 2020 design 10 value reports? 11 A. That is correct. 12 Q. And then Exhibit 50, which is EPA's guidance on 13 development of model emissions rates for precursors of -- 14 I think it's -- I don't have the full title before me, but 15 it's basically the MERPs guidance? 16 A. I -- I may make reference to that. I did make 17 reference to that in my rebuttal. 18 Q. Okay. Thank you so much. But, primarily, we're 19 going to be looking at NMOGA Exhibits A4 and 45? 20 A. That's correct. 21 Q. Okay. Thank you much. 22 Could you state your qualifications as they 23 relate to your participation in this hearing? 24 A. Sure. My educational background is I have a 25 Bachelor's degree in Chemical Engineering from the	416 1 it was a great presentation that presented a whole lot of 2 work very quickly and concisely. So, nice job on that. 3 So, the conclusions of my modeling are pretty 4 simple, and this is just a straight quote out of my -- my 5 testimony, that "The ozone air quality benefits of the 6 proposed rule are quite modest. What, in fact, the rules 7 have are primarily the result of NOx control measures. 8 Additional controls on oil and gas VOC emissions are not 9 an effective means of controlling ambient ozone levels in 10 New Mexico except possibly for a limited area in 11 Northeastern San Juan County." 12 The NMED modeling approach that was used, I -- I 13 agree with as -- as Mr. Morris quoted me on, during his 14 presentation. The models that were used were consistent 15 with industry standards: the fourth meteorological model, 16 the smoke emissions model, the CAMx photochemical 17 modeling. I have no reason to disagree with the NMED's 18 emissions estimates and agree that the emissions that 19 were -- were put together by this, being based on WRAP 20 emissions are -- are very well vetted. And I feel real 21 good about that. 22 A performance evaluation was conducted and I have 23 no reason to doubt the modeling based on that performance 24 evaluation. It met the EPA modeling criteria or 25 guidelines, and it also -- it tended to overestimate in

417 1 some places and underestimate in other places, which tends 2 to be something that I like to see in the model. I don't 3 like to see anything that's systematically over or 4 systematically under, so I actually feel -- feel good 5 about the model. 6 Q. And so, Mr. McNally, before you move on to your 7 next slide, in addition to industry standards, would you 8 also find it was consistent with any applicable 9 governmental standards or guidance? 10 A. Yeah. EPA has put together guidance for the 11 applications of the air quality models for State 12 Implementation Plans. And as Mr. Morris pointed out, this 13 isn't really a State Implementation Plan, but it sort of 14 is; I agree that it's kind of a mini SIP, if you will. 15 And so, yeah, I feel like the guidance was -- was followed 16 in the most -- in most cases. And the -- there was 17 some -- the guidance gives some flexibility and there's 18 some of the flexibility that was taken, I don't 19 necessarily agree with, and I'll talk about that during my 20 presentation. 21 Q. Thank you. 22 A. So the NMED analysis assessed the model impacts 23 both in an absolute and relative sense. The majority of 24 the report -- this would be the report is primarily what 25 I'm referring to as the PSD that was put together by	419 1 EPA guidance says they should be centered. 2 When you get -- one of the nice things about that 3 approach is, it does take into account the fact that the 4 meteorology is -- is specific to a certain year. And the 5 way that these -- it's an average of an average -- I 6 don't -- I talk about it in my rebuttal, I don't need to 7 talk about it here. But that base year, in this case 8 2014, gets weighted heavily in this average of averages 9 that gets used. And I think that the model is much 10 better -- much better when that is used. 11 If -- if the NMED had wished to use more recent 12 observations in the -- in the modeling, then what should 13 have happened is a new modeling base year should have been 14 developed for a later year. You know, if it was desired 15 to use, you know, the 2017 through 2019 design values 16 there should have been -- a base year should have been 17 developed for, you know, 2019, or as late as -- as could 18 have been used based on data availability. 19 So, the -- Mr. Morris presented this already, but 20 the 2028 model projections, what we see is that there's 21 a -- between the base year 2014, now to 2028, there was a 22 2. -- a 5.6 parts per billion up in Northern New Mexico; 23 5.9 parts per billion in Bernalillo County; 5.2 parts per 24 billion in Southern New Mexico. And this is the changes 25 before -- without the rule being implemented.
418 1 Ramboll. Most of that was based on relatives, but part of 2 it was absolutely. So as we've -- as already has been 3 talked about. You know, absolute is the model's -- the 4 concentrations straight out of the model. 5 In a relative sense, what we do is we scale 6 observations based on changes in the model concentrations. 7 I really prefer the relative approach; it's consistent 8 with EPA guidelines. It does recognize the uncertainty in 9 the model estimates. These models are phenomenally 10 complex, there's -- and -- and have -- there's a lot of 11 uncertainties in the modeling -- in the model 12 formulations. There's uncertainties in the model input 13 and I think by using the modeling in a relative sense, 14 you're accounting for some of that, you're recognizing, I 15 guess, is a better term -- some of the uncertainty in the 16 model estimates. 17 I further think, though, that it's important to 18 use modeling -- model observations that are centered on 19 the base year. That was done in the majority of the 20 presentation in the PSD analysis, but in Mr. Morris's 21 previous presentation and in his testimony he also used a 22 period that was not; he used more recent observations on 23 that. And that makes me uncomfortable because the -- in 24 Mr. Morris's presentation he talked about how the design 25 values are based on three three-year averages. And that	420 1 The rule emissions impact -- and I -- I have no 2 opinion as to how -- how good an estimate these are, how 3 appropriate these are to -- these estimates are. But, you 4 know, the oil and gas NOx in the future year went from 5 about 120 -- or 102,000 tons per year to 56,000 tons per 6 year, about, you know, a decrease of about 46 tons per 7 year or 46,000 tons per year, a 45 percent reduction. And 8 the oil and gas VOCs went from 211,000 tons per year to 9 105, about a 50 percent reduction. So, basically, a lot 10 of control -- a lot of -- a lot of tons. 11 And the impacts of these tons are presented in 12 the next slide, on slide 7. That one showed a 1 and 1/2 13 part per billion maximum up in Northern New Mexico in San 14 Juan. Other monitors in San Juan, we have .8 part per 15 billion decrease in Bloomfield, and -1.2 at Substation. 16 There was about 1/2 a part per billion in Bernalillo 17 County, and then about a .7 parts per billion down in 18 Southern New Mexico. So with those -- those, you know, 19 roughly 46,000 tons of NOx and that 105,000 tons per year 20 of VOCs, we ended up with a fairly modest ozone decrease. 21 A lot of my analysis is based on work that was 22 done doing additional analysis on modeling that was 23 already conducted by Ramboll, by Ralph, for NMED. And one 24 of those analyses was they did an APCA source 25 apportionment simulation, to look at the contribution of

421 1 oil and gas emissions after the controls were put in 2 place. 3 Now, the slide I'm going to show next is -- it's 4 important, that this is not the contribution of the rule. 5 This is the relative view of the ozone formed from oil and 6 gas VOCs versus oil and gas NOx emissions after the rule 7 were applied, because that was the simulation that was 8 done by NMED. 9 Ralph mentioned the fact that we could have made 10 a model run on this. And the modeling was supplied by 11 NMED, and gave permission for Ramboll to deliver that. 12 They did a great job, they delivered it in a timely 13 manner. And thank you so much to both of them for making 14 this data available in time to be able to do the -- quite 15 a bit of analysis that had to happen on this. 16 And we did kick -- or I did kick around whether I 17 should make the model simulation on that. And what I 18 determined was that, while there is uncertainty in the 19 analysis of the NOx and VOC contributions, that is a 20 downside. On the plus side, it's nice for consistency 21 sake, to be using modeling that was conducted by NMED for 22 the rule. 23 And if I start making model runs on different 24 computer systems, we can get a little bit different 25 answers. As I start perturbing model input, that just can	423 1 year of NOx across the state. What we see there is that 2 up in the oil and gas basins, we see the majority of the 3 contributions. 4 On the left is the NOx, on the right is the 5 contribution with the same scale of the VOC emissions. 6 And what we see on that is this 105,000 tons per year of 7 VOCs, we have less than -- less than 1/2 a part per 8 billion in the -- there's half a part per billion in the 9 San Juan Basin, with a few limited areas in Northeastern 10 San Juan County, going over, going up into the half part 11 per billion, and then nothing over a half part per billion 12 down -- down in the Permian Basin. So the -- so that 13 concludes, I mean, a summary of my judgment of the 14 modeling. 15 In the rebuttal there was some -- in the rebuttal 16 testimony, I also had a comment about some of the National 17 Park Service testimony. And in that, their -- their 18 presentation, they -- it would be easy to interpret their 19 presentation to say that they're using ethane as a 20 surrogate for VOC emissions. And I think ethane is really 21 useful as a tracer for oil and gas emission sources. 22 Oil and gas sources tend to have more ethane 23 emissions than other sources -- other anthropogenic 24 sources or biogenic sources for that matter. So it's a 25 useful tracer, but it's a little misleading because ethane
422 1 lead to more inconsistencies, and I thought it was better 2 to accept the uncertainties in using the APCA analysis 3 than to do -- than to introduce inconsistencies based on 4 doing new modeling. 5 So what we ended up seeing on this was, now, when 6 we model the contribution of the 56,000 tons per year of 7 NOx and 105,000 tons per year of VOC, we find that there's 8 about 1/2 a part per billion maximum occurring in the San 9 Juan County up in the San Juan Basin. There's a tenth of 10 a part per billion at two monitors in Bernalillo 11 County/Santa Fe area, Central New Mexico, with many of 12 those -- with 5 of those 7 monitors showing less than .1 13 part per billion impact. And then down in Southern New 14 Mexico, the maximum impact was a .1 part per billion at 15 less than half of the monitors in Southern New Mexico. 16 So of the VOC contributions, we're pretty small. 17 The NOx contributions are a maximum of, you know, 2, 2 and 18 1/2 parts per billion up in the San Juan Basin at Navajo 19 Lake; .6 parts per billion in Central New Mexico; and up 20 to .9 parts per billion at Carlsbad down in Eddy County. 21 Looking at that same relative response to these 22 contributions that we -- that we looked at before, we 23 also, like Ralph presented earlier, we also looked at the 24 unmonitored area analysis. And what we see there on the 25 left is, this is the contribution of this 56,000 tons per	424 1 is not regulated as a VOC since it's, as EPA calls it, 2 negligibly reactive. So, while there can -- there can be 3 ethane emissions from -- from the oil and gas activity, 4 it's not forming very much ozone from that, so... It's 5 just more of a comment to keep track. 6 And then, I'm just going to close it with my 7 conclusions again, but I'm not going to bore you all by -- 8 by reading it again. 9 So thank you for your time. And thank you, 10 Ralph, for doing the heavy lifting of introducing the 11 study for me so I didn't have to. 12 Q. Thank you, Mr. McNally. 13 MR. RISER: I have no further questions. 14 HEARING OFFICER ORTH: Thank you, Mr. McNally and 15 Mr. Hiser. Ms. Katz or Mr. Knight, do you have a question 16 Mr. McNally? 17 MS. KATZ: No questions from the Department, 18 Madam Hearing Officer. 19 HEARING OFFICER ORTH: All right. Thank you. 20 Ms. Fox? 21 MS. FOX: No questions. Thank you for your 22 presentation, Mr. McNally. 23 HEARING OFFICER ORTH: Ms. Paranhos? 24 MS. PARANHOS: No questions, Madam Hearing 25 Officer.

425 1 HEARING OFFICER ORTH: Thank you. Professor 2 Pacyniak? 3 PROFESSOR PACYNIK: No questions, Madam Hearing 4 Officer. 5 HEARING OFFICER ORTH: All right. Thank you. 6 Ms. Devore or Mr. Vimont? 7 Mr. Nykiel? 8 MR. NYKIEL: No questions. Thank you. 9 HEARING OFFICER ORTH: Thank you. Mr. de 10 Saillan? 11 MR. DE SAILLAN: Yes, Madam Hearing Officer, 12 thank you. I have a few questions. 13 HEARING OFFICER ORTH: Go ahead. 14 CROSS-EXAMINATION OF DENNIS McNALLY 15 BY MR. DE SAILLAN: 16 Q. Good morning, Mr. McNally. And I want to thank 17 you also for your presentation. I just have a few 18 questions here. Now, the gist of your testimony as I 19 understand it, is that the proposed regulations, if 20 they're put in place, would only have very modest 21 beneficial effect on air pollution in New Mexico; do I 22 have that right? 23 A. That's correct. 24 Q. And as I understand it, the effects that you're 25 looking at are at monitoring stations located in a	427 1 that that meteorology and wind direction, and there are 2 going to be a lot of factors that are going to affect 3 this, but as a general matter, areas that are located 4 closer to oil and gas facilities are generally going to 5 have higher levels of ozone and other pollutants; do you 6 agree with that? 7 A. Yeah, areas in the -- in the -- in the vicinity 8 of the emissions sources do tend to have higher ozone 9 concentrations. That can be from the oil and gas regions; 10 it could also be like, you know, in the Albuquerque/Santa 11 Fe area from other emissions sources, too. 12 Q. Okay. Thank you, Mr. McNally. I don't have any 13 other questions. 14 HEARING OFFICER ORTH: All right. Thank you, 15 Mr. de Saillan. 16 Let's see. Mr. Janoe. Oh, no, I'm sorry. I 17 skipped over Mr. Rose. Mr. Rose? 18 MR. ROSE: No questions. 19 HEARING OFFICER ORTH: Thank you. 20 Mr. Janoe? 21 MR. JANOE: No questions. 22 HEARING OFFICER ORTH: Okay. Mr. Butzier? 23 MR. BUTZIER: No questions. Thank you. 24 HEARING OFFICER ORTH: Ms. Gutierrez? 25 MS. GUTIERREZ: No questions. Thank you.
426 1 relatively small number of locations around the state, and 2 particularly in those counties that are affected here; is 3 that correct? 4 A. I did look at the -- at the impacts at the 5 stations, but I also looked at the impacts away from the 6 stations, as I showed in my earlier unmonitored area 7 analysis. 8 Q. Okay. And -- but, nevertheless, that's a limited 9 number of stations when you look at all of the -- all of 10 the air and all of the area that we're talking about in 11 New Mexico? 12 A. I agree that, yeah, the stations, there are 13 limited stations in New Mexico, but, again, I did look at 14 areas not at the monitors also. 15 Q. Thank you. So there -- there are going to be 16 areas where the pollutant levels are actually lower or 17 they're actually higher than what your model predicts; is 18 that correct? 19 A. Well, the impacts of the oil and gas are -- are 20 just what the model had, and within limits; if there are 21 limitations in the model, there could be higher 22 contributions or lower contributions. 23 Q. Okay. Thank you. 24 And -- and for example, areas that are close to 25 an oil and gas facility -- and I know -- and I understand	428 1 HEARING OFFICER ORTH: Thank you. 2 Mr. Colclasure? 3 MR. COLCLASURE: No questions. Thank you. 4 HEARING OFFICER ORTH: And Ms. Witherspoon? 5 Okay. I'm going to turn to the Board members in the 6 event they have questions. If you are not a panelist, 7 you're on this platform and have a question, please reach 8 out to me in Chat. So let me start with Madam Chair. 9 EXAMINATION BY THE BOARD OF DENNIS McNALLY 10 CHAIRPERSON SUINA: Madam Hearing Officer, I just 11 have a couple of questions -- maybe just one. 12 Mr. McNally, going back to the presentation that we had 13 earlier by Mr. Morris and some of the rebuttals that he 14 had for Mr. Blewitt's presentation the day before; so I 15 just want to make sure I'm clear. So I know in his 16 presentation earlier on Slide 26 of 28, that he presented 17 this morning, he said in evaluating emissions control 18 strategies for reducing ozone concentrations, the standard 19 practice is to evaluate the combined effects of control 20 strategy VOC and NOx emissions reductions and ozone 21 concentrations. 22 So I know in your conclusion, you were saying 23 that primarily -- primarily, the role is focused on -- or 24 the result of the NOx control measures would be the -- any 25 benefit, as you put it, or modest benefit. So could you

429 1 just walk me through -- I guess, in Mr. Morris's 2 testimony, the standard practice and what's your 3 perspective on what that standard practice is, if there is 4 a standard practice, and how you see that and how you see 5 in your conclusion, we should look at NOx versus the VOC. 6 MR. McNALLY: Yeah. So when they -- in a normal 7 SIP development, what tends to happen is you will first 8 develop the future -- the future case. And then you'll 9 assess that, and that will say if you're -- if you're out 10 of the attainment. If you're in attainment, then you're 11 lucky, you -- the rules that are already on the books will 12 get you into attainment, you're done, write your SIP and 13 turn it in. 14 If you're out of attainment, then what you're 15 going to do is you're going to put together controls to 16 get that area into attainment. And normally, what we'll 17 do is you'll start with some fairly broad brush, not 18 really a rule, but broad brush emission perturbations, I 19 would say. So let's go in and let's cut the anthropogenic 20 NOx by 25 percent; and separately, let's cut the 21 anthropogenic VOCs by 25 percent, and then maybe we would 22 do a simulation where we would cut both. 23 And that would give you an idea of, is the area 24 more NOx sensitive, more VOC sensitive, or maybe equally 25 sensitive. Once you have that -- that data available to	431 1 MR. McNALLY: I'd say in the screening before 2 you're developing strategies, yes, but oftentimes when a 3 strategy does get modeled, since you've already been 4 informed by whether you need VOC control or NOx control, 5 it -- it would not be typical that you would break out the 6 impacts of each pollutant specifically. 7 CHAIRPERSON SUINA: Okay. Thank you for that. 8 Thank you, Madam Hearing Officer. 9 HEARING OFFICER ORTH: Thank you. Vice-Chair 10 Trujillo-Davis, do you have questions of Mr. McNally? 11 VICE-CHAIR TRUJILLO-DAVIS: Hello, Mr. McNally. 12 Thank you for your presentation, I appreciate it. I just 13 have one or two quick questions here. You were mentioning 14 that ethane is not -- is a good tracer, but it can be 15 misleading in analysis; is that correct? 16 MR. McNALLY: That's correct. 17 VICE-CHAIR TRUJILLO-DAVIS: Currently, does 18 ethane -- do you see reductions in ethane with the current 19 reduction equipment, like a VRU, closed C patches, things 20 like that? Do you see ethane reduce as well, or does it 21 not seem to be impacted by those other measures? 22 MR. McNALLY: You know, I would expect ethane 23 con -- ethane emissions to decrease as controls on other 24 VOCs from oil and gas activity decrease, are -- are put 25 into place.
430 1 you, then you would use that to guide what control 2 strategies you might want to look at. Maybe -- maybe you 3 would -- you know, maybe that would point you toward more 4 of a NOx controls kind of a strategy, or maybe more of a 5 VOC strategy. 6 And that sort of a step doesn't appear to have 7 taken place here. You know, they got to the future year 8 and then they applied -- then they applied a control to 9 that, to say where it would get. And I think, had that 10 initial NOx look, versus VOC look happened, maybe the rule 11 would have been structured in a different way. 12 CHAIRPERSON SUINA: Thank you for your response, 13 Mr. McNally. I just have another follow-up question to 14 that. So I guess I'm looking at the standard practice in 15 the industry. Have you seen in -- and I don't know if you 16 have experience working beyond New Mexico in other areas 17 where we're looking at these models. Do you have that 18 experience? 19 MR. McNALLY: Yeah, I do. I've worked 20 extensively in the Northeast, in Denver, and a lot of work 21 in Houston. 22 CHAIRPERSON SUINA: Okay. And in those models -- 23 or in those analyses, is it the standard practice to look 24 at the VOC and NOx emissions reductions on the ozone 25 concentrations and the impacts?	432 1 VICE-CHAIR TRUJILLO-DAVIS: Okay. So I just want 2 to understand where you were talking about what's 3 misleading. I don't think I understood that point. 4 MR. McNALLY: So when the Park Services, part of 5 their field program that they did, they collected ethane 6 concentrations and then, as surrogates for where -- what 7 the source of the VOC emissions were coming from. But 8 then in the -- in the presentation, what I think they 9 should have done was, showed what the full VOC 10 concentrations are, not just what the ethane 11 concentrations are. Because the full VOC contributions 12 will also include things like biogenics from -- maybe from 13 motor vehicles, and the signatures would be pretty 14 different. 15 VICE-CHAIR TRUJILLO-DAVIS: Ah, I understand. 16 Thank you very much for clearing that up for me. 17 HEARING OFFICER ORTH: Thank you. Member Cates, 18 do you have questions of Mr. McNally? 19 BOARD MEMBER CATES: Yeah, a couple of quick ones 20 here. Good morning, sir. Thanks for the testimony. So 21 just a point of clarification: is it your view that the 22 rules we're -- that we're considering if they're 23 implemented, they're going to have a minimal effect 24 overall, in terms of, you know, the state as a whole? Is 25 that -- is that your -- did I understand that correctly?

433 1 MR. McNALLY: Yeah, it's a pretty modest -- a 2 modest impact. 3 BOARD MEMBER CATES: Right. Now, if you look at 4 the hot spots down -- I'm thinking about your maps. If 5 you look at the hot spots in the Permian Basin and up 6 around Farmington, would it be your contention that the 7 effect of these rules, if implemented, would have a 8 minimal impact there as well? 9 MR. McNALLY: I've just switched back to the 10 slide that shows this, Mr. Cates. So the impacts are -- 11 there are local impacts that are higher than at the 12 monitors, that I presented certainly, but the impacts are 13 still on the range of, you know, under a very limited area 14 of 3 to 4 parts per billion from these controls, and 15 primarily from the NOx. 16 BOARD MEMBER CATES: So then -- so then you would 17 say, you know, in addition, your position would be, then, 18 in addition to having sort of an extremely modest impact 19 statewide, that the impact locally would be modest as 20 well; is that what you're saying? 21 MR. McNALLY: Yeah, given -- well, given the 70 22 parts per billion standard, whether what is modest, what 23 is -- I mean, those are soft numbers, if you will. But 24 this rule is not going to have a large impact. 25 BOARD MEMBER CATES: Okay. That's all I've got.	435 1 2014, that the simulations were based on. I mean, were 2 there any -- was there any, like, spin-up process going to 3 that, or was it just using the meteorological data from 4 that single year, using -- based -- that the projections 5 were based on? 6 MR. McNALLY: Yeah, so the model was just run for 7 the ozone season of 2014. 8 BOARD MEMBER DUVAL: Okay. 9 MR. McNALLY: But the model was run with a 15-day 10 spin-up, if you will. 11 BOARD MEMBER DUVAL: Okay. 12 MR. McNALLY: We start the -- the model 13 initialization is based on the global model -- the global 14 model simulation, which is at a very coarse resolution. 15 BOARD MEMBER DUVAL: Sure. 16 MR. McNALLY: And the model is run for 15 days, 17 to sort of flush, you know, that's to get two waves across 18 the country to wash that out, and then the model starts to 19 be used for the simulation that we're going to use, but, 20 yeah. 21 BOARD MEMBER DUVAL: Because I was -- I was 22 curious, because I mean, there's obviously 23 publicly-available data like the CMIP, future climate 24 projections from -- from that. I'm -- I'm assuming you're 25 familiar with -- with that framework?
434 1 Thank you very much. 2 HEARING OFFICER ORTH: Thank you. Member Bitzer? 3 BOARD MEMBER BITZER: Yeah, real quick. On 4 the -- on the modest impact on the VOCs up in the 5 Farmington area, part of that modest impact drifts over 6 the border into -- what is that Animas La Plata region of 7 Colorado. Would this modest impact potentially -- and 8 this may be a question for the state, I don't know -- but 9 would this modest impact potentially have an impact on our 10 ability to retain and/or enhance our good neighbor 11 obligations under EPA's good neighbor rule? 12 MR. McNALLY: I'm afraid I don't know how to 13 answer that. 14 BOARD MEMBER BITZER: I'm sorry. That could 15 maybe be a question later for the environment staff, too, 16 because I think that drifts back over onto cross their 17 side of the border. That's all I had. 18 HEARING OFFICER ORTH: All right. Thank you. 19 Member Duval? 20 BOARD MEMBER DUVAL: Yes. Thanks, Mr. McNally. 21 I appreciate your testimony. I am curious about some 22 points that might seem a little overly academic, but I 23 think you're in a good position to answer these. So the 24 weather inputs into the model, I was a little confused 25 about that. You made mention that it was, I believe,	436 1 MR. McNALLY: Generally available -- or generally 2 familiar with the climate models. 3 BOARD MEMBER DUVAL: Yeah. So I was just 4 curious, like if -- if we're -- and this, again, could be 5 a question for the state if they were the ones that were 6 running the models, but, you know, I think it would be 7 standard practice to, you know, validate with known 8 meteorological parameters, and then run forward with 9 projected climate simulations. So kind of like modeling 10 within the model in a sense, if you're trying to get at 11 what projections for, say, 2028 or 2050 or 20100 would be, 12 that, like, we should be using future climate projections, 13 and not relying on, you know, potentially a single data 14 year. 15 MR. McNALLY: I -- I certainly don't disagree 16 with your assessment on that, but the -- if you're -- if 17 you're using a model to look at control strategies, you 18 have to be able to isolate cause and effect in the model. 19 And the way that we do this is in the current -- as was 20 done here and is typically done in the air quality 21 community is, we make an assumption that the weather in 22 the future year, in this case 2028, is going to be 23 identical to what the weather was on -- in 2014. 24 BOARD MEMBER DUVAL: And that's -- and that's 25 exactly my point, that that's a -- that's an unreasonable

437 1 assumption. 2 MR. McNALLY: And it's -- and that's because 3 you've got to anchor some degrees of freedom in order to 4 isolate what the impacts of the emissions are. 5 BOARD MEMBER DUVAL: I understand the challenges 6 of doing that, yes, but I mean, I think you see my point, 7 too, that like -- 8 MR. McNALLY: Yes, I do. 9 BOARD MEMBER DUVAL: There are frameworks that we 10 could use with -- with, you know, pretty well vetted -- 11 and it wouldn't just be one model, right? I mean, there's 12 like 15 that you could do a suite and put some error bars 13 around this, too. Instead of just saying it's going to be 14 7 percent that, you know, we have -- we have, you know, a 15 confidence interval around some of these numbers. So -- 16 and I apologize for missing this morning's presentation. 17 I was actually -- I was teaching. But, yeah, I need to 18 look more at the morning's -- I'm assuming this is all 19 being recorded and I'll look at this morning's testimony, 20 but, yeah. I think I will end my statements with a quote 21 that I'm sure you're familiar with by George Box, that 22 "All models are wrong, some are useful." 23 MR. McNALLY: Thank you. 24 BOARD MEMBER DUVAL: All right. I'm done. 25 HEARING OFFICER ORTH: All right. Thank you,	439 1 HEARING OFFICER ORTH: All right. Thank you. 2 Madam Chair, I understand you have a follow-up? 3 CHAIRPERSON SUINA: Thank you, Madam Hearing 4 Officer. I apologize. This came up as I was listening to 5 the other questions. Mr. McNally, I just wanted to get my 6 head around, you know, as Member Duval said, we get all of 7 these values out of numbers, and we're trying to look at 8 data and trying to look at various, you know, aspects 9 objectively, scientifically. So you used the term 10 "modest." And in one of the -- I think in your -- one of 11 the conclusions or one of the statements, what do you see 12 as modest? What's your definition of modest? 13 MR. McNALLY: So that's a great question. I 14 would think -- I would say a modest is -- is a way of 15 looking at what is -- it really comes down to a value, I 16 guess. And I see modest as being, it's not going to have 17 the -- it's a lot of controls that's going to get not a 18 huge impact; it's going to get some impact. So it's -- 19 it's very difficult -- and I -- and I -- to quantify 20 exactly. I mean, is it -- is it 3, not 4? Yes. No, I 21 wouldn't say that. It's more of just a feeling on the 22 number. 23 CHAIRPERSON SUINA: Yeah. And I'm just trying to 24 get my head around that. And we're -- so you're looking 25 at modest as maybe not solely in the quantifiable terms,
438 1 Member Duval. Member Garcia? 2 BOARD MEMBER GARCIA: No questions. Thank you. 3 HEARING OFFICER ORTH: All right. Thank you. 4 And Member Honker? 5 BOARD MEMBER HONKER: Yes, just one question, and 6 thanks for the very interesting presentation. I believe 7 later in the hearing we're going to be looking at examples 8 of approaches that Pennsylvania and Colorado have taken. 9 I was curious as to whether you had reviewed any modeling 10 that either of those states had done, to support any 11 revisions they've made in their programs? 12 MR. McNALLY: So, in Colorado, we were -- until 13 very recently we were a subcontractor to Ramboll in 14 putting together those SIPs. So we've been involved in 15 putting together SIPs in Colorado since, I think, about 16 2003. So I'm pretty familiar with how the modeling was 17 put together. I am certainly less familiar with how the 18 emissions inventories were put together to support that 19 modeling. 20 BOARD MEMBER HONKER: Okay. And do you have any 21 familiarity with the Pennsylvania program? 22 MR. McNALLY: I do not have familiarity with 23 Pennsylvania. 24 BOARD MEMBER HONKER: Okay. All right. Thank 25 you. No other questions.	440 1 and more in looking at modest as other inputs; is that -- 2 is that how I understand your definition? 3 MR. McNALLY: Yes, I'm looking at modest impacts 4 of the -- yes, I guess that would be a safe assumption. 5 CHAIRPERSON SUINA: Okay. Thank you so much. I 6 appreciate that clarification. 7 HEARING OFFICER ORTH: All right. Thank you. 8 Mr. Hiser, will you have any follow-up? 9 MR. HISER: I think just perhaps two questions, 10 Madam Hearing Officer. 11 REDIRECT EXAMINATION OF DENNIS McNALLY 12 BY MR. HISER: 13 Q. Mr. McNally, Chair Suina, I think, asked a really 14 good question about the standard practice that was used. 15 And she asked you, I think, a little about your experience 16 potentially in Houston and Denver. In those areas, have 17 those agencies looked at the balance of where the 18 emissions reductions are more effective or less effective, 19 in trying to craft the emission control strategies? So 20 whether NOx is more effective or VOCs are more effective 21 in the Houston Basin or the Denver Basin? 22 A. Yeah, when you do -- when you're doing the 23 analysis on that, you certainly do take into account 24 spatial, the spatial impacts of that. Do the -- do the 25 controls impact areas that are maybe close to attainment

441 1 or have a large population? So, yeah, you do -- you do 2 examine spatial -- spatial impacts of control. 3 Q. And then if I could have you back up to slide 9 4 of your presentation? And so, when you're talking a 5 little bit about the modest impact that Chair Suina just 6 asked you about, was part of where you're coming from, 7 that as you look at 56,000 tons a year of NOx or 105,000 8 tons a year of NOx, and then you look at what the part per 9 billion impacts, or in this case, point-part per billion 10 impact of that, that's sort of what you're saying is the 11 modest; it seems that there's a small movement in the 12 ambient concentration for a whole lot of tons on the 13 emissions side? 14 A. That's -- that's what I was trying to say. Thank 15 you. 16 MR. HISER: Okay. Thank you. That's all of my 17 questions. 18 HEARING OFFICER ORTH: I'm sorry. Mr. Hiser? 19 MR. HISER: Yes. 20 HEARING OFFICER ORTH: I'm sorry. Mr. Hiser, 21 Member Duval has reached out to ask another question and 22 if you need follow-up after that, we'll certainly allow 23 it. Member Duval. 24 FURTHER EXAMINATION BY THE BOARD OF DENNIS McNALLY 25 BOARD MEMBER DUVAL: Yeah, thanks again for your	443 1 more sophisticated, you know, gas analysis system. So I 2 just wanted to make that point. 3 MR. McNALLY: Thank you. 4 BOARD MEMBER DUVAL: Thank you. 5 HEARING OFFICER ORTH: Thank you. Is there 6 anything further, Mr. Hiser? 7 MR. HISER: No, Madam Hearing Officer. 8 HEARING OFFICER ORTH: All right. Thank you. If 9 there's no reason not to excuse Mr. McNally, we will 10 excuse him. And thank you very much for your testimony. 11 MR. McNALLY: Thank you. 12 MR. HISER: Thank you, Madam Hearing Officer. 13 HEARING OFFICER ORTH: All right. I'm the 14 presenter again. All right. Where are we going next? I 15 know the names of the other witnesses who will be 16 testifying on modeling, but I'm not sure exactly what 17 order they're going to be testifying in. I see Mr. Rose 18 on the screen. 19 MR. ROSE: We have Mr. Blewitt who has testimony 20 on the modeling as well, but in terms of order, we could 21 go next. I don't think there is any preference, but 22 however you want to handle that. 23 HEARING OFFICER ORTH: All right. Would folks 24 prefer to break for lunch, knowing that we would have to 25 break, you know, in about 15 minutes or so anyway? How do
442 1 time. I bristled a bit at the dismissal of ethane as a -- 2 as a tracer. You know, why do we use tracers? It's 3 because it's an easier thing to measure than the actual 4 thing. Right? So, I don't know, I guess I was a little 5 confused at the -- what seemed to be dismissive of the 6 ethane data, when it's a really good proxy because, you 7 know, it's a very simple hydrocarbon and it's easy to 8 measure and we know that it literally traces, i.e., 9 correlates, with these other VOCs. So I was just a little 10 confused as to why that would be sort of dismissed in the 11 other presentation -- you know, from the other 12 presentation. 13 MR. McNALLY: I apologize if it came across as I 14 was being dismissive. Because I think I stated, that I 15 think it's a very useful thing, but I think when you start 16 looking at the ozone-forming potential of air, you should 17 be looking at the VOCs in that air, not at the ethane 18 concentrations in that air. That's -- that's my only 19 point on it. 20 BOARD MEMBER DUVAL: Granted. Yeah. Okay. And 21 I didn't mean to impugn; I just -- I wanted to make sure 22 that it's like clear to maybe folks that don't have the 23 same background that you do, that, you know, like the 24 reason you use a tracer is because it's an easier molecule 25 to measure with given instrumentation, and perhaps like a	444 1 you feel about that, Mr. Rose? 2 MR. ROSE: That would be fine, I think. I don't 3 know how long Mr. Blewitt's direct is going to take, but 4 my sense is it will be about the 15 minutes, and any 5 questioning probably would be better if it directly 6 followed his testimony, as opposed to there being a gap. 7 So I think I'd prefer breaking now and then reconvening 8 after the public testimony at 1:00. 9 HEARING OFFICER ORTH: Okay. I'd rather not take 10 an extra long lunch, if there is something else we can do 11 now. Let me see here. Ms. Katz, I don't know if you have 12 any ideas. It might be possible to take someone who, for 13 example, is already on the platform, by way of a public 14 comment just to get us a little closer to noon. 15 Oh, if we reconvene at 12:30, that's a question 16 from a Board member, then we could take a whole half hour 17 of technical testimony before 1. How does that sound? 18 MR. ROSE: That would be fine, Madam Hearing 19 Officer. 20 HEARING OFFICER ORTH: All right. And I see 21 Ms. Katz nodding. All right. So let's adjourn for lunch. 22 It's 11:45, we'll return at 12:30 with Mr. Blewitt. Thank 23 you, all. 24 (Recess taken from 11:46 a.m. to 12:30 p.m.) 25 HEARING OFFICER ORTH: All right. We're back

445 1 after our lunch break. And I have a request, Ms. Katz, if 2 you're on, please, and I think this will just take a 3 second. 4 MR. ROSE: I don't see her. 5 HEARING OFFICER ORTH: Okay. So here's -- here's 6 the request for confirmation. I hoped this would be a 7 quick confirmation. The plan is to complete modeling, the 8 economic analysis and small business before going to the 9 Environmental Law Center direct. I mean, that's my 10 understanding. I just -- oh, there's Lara. Ms. Katz? 11 MS. KATZ: Yes. Sorry, my computer is being 12 really slow; I can hear everything you're saying, but I'm 13 not being able to come up right away. So can you -- so 14 say the order that you just said one more time? 15 HEARING OFFICER ORTH: So complete modeling, the 16 NMOGA economic analysis and small business topics before 17 moving to the Environmental Law Center direct, which I 18 think is Pasqual. 19 MS. KATZ: No, so that's not the plan. I think 20 what we would like -- because we're trying to have the 21 economist -- neither my -- let's see. So, yeah, I don't 22 think NMOGA's economist is available today and my 23 economist is not either. So what we're trying to have 24 that -- that -- the economic analysis and small business 25 facility go tomorrow first and second. And so once we're	447 1 slot here now for that exhibit. And for those folks who 2 may not have seen their in-box this morning, we had an 3 amendment to that or an addition to that exhibit, which I 4 circulated this morning. So there was an additional slide 5 that is included in this amended slide deck. 6 HEARING OFFICER ORTH: Okay. Thank you very 7 much. He's on and he has presentation privileges. 8 MR. ROSE: And I guess he needs to turn on his 9 camera and have at it. 10 HEARING OFFICER ORTH: All right. Mr. Blewitt, 11 you're still under oath. 12 MR. ROSE: Let's see if he's on. There he is. 13 At least I think I see him. No, I guess not. 14 Mr. Blewitt, are you on? 15 MR. BLEWITT: Yes, I'm here. Can you hear me? 16 MR. ROSE: I can hear you, I can't see you. Oh, 17 there you are. 18 HEARING OFFICER ORTH: I can see him. I can see 19 him. 20 MR. ROSE: I can see him now. Mr. Blewitt -- and 21 for reference, Mr. Blewitt's direct and rebuttal testimony 22 is IPANM Exhibit 6 for direct and 12 for rebuttal and 23 he'll be speaking as to that. 24 DOUG BLEWITT, 25 having been previously duly sworn, was examined and
446 1 done with the modeling, we're asking to move things up, 2 like, so, yes, the Environmental Law Center's direct, CCP 3 direct, NAVA, and some of these other ones -- you know, 4 other topics, so that we can get through those today and 5 start tomorrow with the economics. 6 HEARING OFFICER ORTH: I'm sorry. And to the 7 extent that poses any kind of challenge to Professor 8 Pacyniak, NAVA, CCP, I think he's going to have to 9 communicate with you offline, I think would be best. 10 PROFESSOR PACYNIK: No challenge at all. 11 HEARING OFFICER ORTH: Oh, okay. Thanks so much. 12 Thank you, Mr. de Saillan for coming on screen as well. 13 Mr. Rose, let's move to Mr. Blewitt. 14 MR. ROSE: Mr. Blewitt's on, we need to, I guess, 15 bring him into the inner sanctum here so that he can 16 testify. 17 HEARING OFFICER ORTH: Okay. He's in purgatory, 18 I guess. Let's bring him on. This will take me just a 19 second. I'm sorry. For some reason I thought I had made 20 him a panelist, but maybe I'm thinking of yesterday. 21 All right. Mr. Blewitt is a panelist. And will 22 Mr. Blewitt need presentation privileges? 23 MR. ROSE: He will and this should be a very 24 familiar exhibit because that's what he started with 25 yesterday. And, hopefully, we've got him in the right	448 1 testified as follows: 2 REBUTTAL DIRECT EXAMINATION OF DOUG BLEWITT 3 BY MR. ROSE: 4 Q. Mr. Blewitt, yesterday, you explained or 5 summarized your education and work background. With 6 respect to modeling, could you advise the Board on your 7 experience, particularly as it relates to photochemical 8 modeling? 9 A. Yes, I would be glad to. I've had -- I've had a 10 great deal of experience in being involved in 11 photochemical modeling starts. Let me just kind of run 12 down the list very quickly here. I was involved in the 13 early Regional Haze WRAP modeling work group as the air 14 quality control commissioner for the state of Colorado. I 15 was deeply involved in the original SIP development for 16 Denver and hosted a modeling -- a series of modeling 17 workshops to discuss the modeling that would be going on 18 on that. I've been involved in three different EIS 19 applications with extensive development work by me 20 regarding emission inventories for oil and gas sources 21 that looked at the climate for both NOx and VOCs. 22 I was involved in the WRAP western project from 23 the start and really got that work initiated and helped 24 secure funding for that. I've published two peer-reviewed 25 papers on stratospheric intrusion using Geoscan and CAMx.

449 1 And I participated extensively in the Four Corners 2 modeling work that was done on the first go-around of the 3 Four Corners Task Force. 4 Q. And Mr. Blewitt, is there anything in terms of 5 your credentials that you wanted to add with respect to 6 this topic? 7 A. Yes. I am a certified consulting meteorologist 8 and I have been since 1985. 9 Q. Mr. Blewitt, can you give us a summary of your 10 direct and rebuttal testimony? And if you want to go 11 ahead and use the PowerPoint presentation, I think that 12 now would be the time. 13 A. Yes. 14 MR. ROSE: Madam Hearing Officer, does he have 15 presentation rights here? 16 MR. BLEWITT: Is that showing up? 17 MR. ROSE: Not yet. 18 HEARING OFFICER ORTH: The share button ought to 19 work for you. 20 MR. ROSE: There we go. 21 MR. BLEWITT: There we go. 22 Q. (BY MR. ROSE) Let's see. If you'd make it 23 bigger, I guess. 24 A. What I'd like to do is, I'd like to go back to 25 this first slide that we talked about yesterday. And I --	451 1 only state-enforceable for the same pollutant. 2 So I think NMED really, and the Board really need 3 to think about this issue of enforceability and what do 4 these -- in whatever ultimate plan you implement, what 5 does that mean in terms of regulation and -- and 6 enforceability by other parties. 7 HEARING OFFICER ORTH: Mr. Blewitt, is it 8 possible to expand the size of your slide there? 9 MR. BLEWITT: Sure, I can do that. 10 HEARING OFFICER ORTH: Thank you. 11 MR. BLEWITT: Is that better? 12 HEARING OFFICER ORTH: It is better. Thank you. 13 MR. BLEWITT: I talked about this yesterday, and 14 I want to expand upon this further. Mr. Morris identified 15 the 2014 base case and we talked about the 2028 16 future-year base case. Now, I think this needs to be 17 discussed a little bit more because it's not a simple 18 answer, as Mr. Morris alluded to. I looked through the 19 entire WRAP west side more than once, and I was unable to 20 find any documentation on what was in this base-case 21 inventory. 22 And I think for the Board and NMED, this is -- 23 this is important, because this ultimately will be somehow 24 involved in some sort of regulation. And I also -- in 25 the -- in the technical support document, there were two
450 1 I guess I'd like to highlight several point on this slide. 2 I think there's an issue of significance that we -- that 3 we need to think about. A lot of the controls/benefits 4 that we're talking about, are less than a ppb. And I 5 think the accuracy of those -- those estimates, and that's 6 what models provide us, are really, you're in the -- 7 you're in the area where some of these may not be really 8 significant, they may not be real, they may be just 9 totally lost in the uncertainty of the model. That 10 doesn't mean they're wrong. It just means that the error 11 bars on those calculations are really probably quite big. 12 I don't have things that I can point to, but that's sort 13 of my gut-level reaction with them and based on 40 years 14 of modeling. 15 The next point I'd like to make is, we talked 16 about this yesterday, but I really want to go back to 17 this: The concept of, we have a base case for 2028, which 18 is not well defined. I'll talk more about that later. 19 But Mr. Baca said that that might not be federally 20 enforceable, and I think from talking as a former 21 regulator being on the Colorado Air Commission, and as 22 somebody who has worked for an industry for a number of 23 years, that -- that leaves a lot of uncertainty, because a 24 single source can't have two sets of emission limits; one 25 which reflect federally-enforceable and the other that are	452 1 references to inventories that were used to develop it. I 2 requested those inventories through NMED, I received them, 3 and, unfortunately, there was not enough -- there was no 4 details other than a tabular list of numbers and emissions 5 rates that you could actually confirm those emission 6 rates. 7 I -- I have also done some work reviewing Mancos 8 EIS. And the Mancos EIS is related to this work through 9 the four-state modeling effort that was done by New 10 Mexico, Colorado, Wyoming -- maybe it's a three-state. 11 And in looking at the work that was done for Mancos, BLM 12 did account for decline in that inventory, but only 13 included it for greenhouse gas emissions. They did not 14 include it for compressors. And so, I really have -- have 15 doubts whether -- whether decline was properly accounted 16 for or not. 17 That may be a moot point in some respects, other 18 than to say the emission inventory may likely overestimate 19 emissions. The modeling results provide a picture that I 20 think is quite important for everyone to understand. 21 And then, there's the last case, which is the 22 2028 future-year case, with additional controls on oil and 23 gas. And the point I want to make here is that unless the 24 2028 base case is implemented, the controls on oil and gas 25 will not satisfy the objectives that we're -- we're --

453 1 that we have in this hearing. So it's important to keep 2 that in mind. 3 Okay. I think we can just skip that slide, I've 4 pretty much covered that. 5 This is a slide that's from a combination of 6 Table 4-6, 4-7 and 4-9 in the technical support document. 7 And what you see is, unfortunately, what's in the 8 technical support document tends to -- to look at the 9 differences as percents, not absolute values. So, 10 there -- there was a 16-, 17,000 ton-per-year increase in 11 oil and gas emissions for -- for nonpoint, which is, 12 basically, wells. And then there's a -- and that number 13 may be overstated, it's hard to say given the information. 14 And then there's a 28,000 ton-per-year decrease, compared 15 to that 31,000 in the 2028 base case. 16 And the other thing I want to mention with 17 respect to this is there is a discrepancy in VOC emissions 18 in the tables between Table 4-6, 4-7, and 4-9, that it 19 probably is not terribly important in this context, but 20 it's something that -- that will be resolved. 21 Okay. We've talked a lot about decline. And oil 22 and gas sources are really unique. Production declines 23 exponentially over time, and then when you start adding 24 in, as those decline, you drill new wells and you are 25 adding new production in, but those start declining, so it	455 1 us to read. 2 MR. BLEWITT: Sure. I'm going to do -- how about 3 that? How about that? 4 HEARING OFFICER ORTH: That's better. Thank you. 5 MR. BLEWITT: Okay. Sorry. So the issue is 6 that, you know, for the San Juan Basin, after we include 7 the base case here -- the 2028 base case, all of the 8 concentrations predicted at the monitors are well below 9 the standard. So the fact -- and we've seen a 5 to 6 -- 5 10 ppb decrease in concentrations, and yet, when we add the 11 oil and gas controls, we're seeing .3, .8 at Bloomfield, 12 1.5 at Navajo Lake, but we're only at 64.8 ppb at that 13 site. So the fact that you're reducing concentrations 14 here, the concentrations are well below the level of the 15 standard. 16 And if you -- if you look at Carlsbad -- and this 17 is older monitoring data, this is what Ramboll looked at, 18 but that's -- the base case takes you down to 6.7 or 66.7 19 reduced to 2.3, but -- but the additional oil and gas only 20 got .3. So -- so we're really not seeing -- as -- as 21 Mr. McNally said, we're seeing a very modest reduction, 22 some of which may be lost in the noise of the model. The 23 only large reductions are at Navajo Lake and Substation, 24 and there the concentrations are well below the standard. 25 And in working in compliance demonstration,
454 1 becomes somewhat of a complex picture in terms of -- of -- 2 of what actual production is. Production tends to grow 3 slowly if -- if the rate of drilling is accelerated. So 4 the reason oil and gas operations are continually drilling 5 is to replace reserves that have declined. And for 6 emission sources such as compressors, dehy's and tanks, 7 those will all show decline in emissions over time. And 8 how you look at those declines is really important, in 9 terms of dealing with regional air quality. 10 And the last point is a point I've continually 11 made, is the documentation, which is really important for 12 NMED and the Board to understand what's in this inventory. 13 This is a slide from the Ramboll report. It's modified, I 14 believe, slightly. It's -- but what you notice is the two 15 orange squares here, those are the two areas that are 16 nonattainment at the moment. The yellow highlights are 17 areas of monitoring that are above the 95 percent, so 18 you've got 68 ppb here; 67 equal to it; 67 equal to it; 19 67, 69. 20 But the issue is, when you implement the changes 21 in that base case, everything is below that 67 parts per 22 billion except the Desert View monitor, which is at that. 23 HEARING OFFICER ORTH: Mr. Blewitt? Mr. Blewitt, 24 I'm sorry again, to interrupt. Is there a way for you to 25 make that the full screen? That really is impossible for	456 1 attainment demonstration, it tends to be a balancing act. 2 You kind of make things better at one place, but make 3 things -- may increase at another place. So I think it's 4 important to keep in mind the actual concentration for the 5 future-year base case, as well as the amount of reduction. 6 But this basically says, if you want to comply 7 with the 95 percent or you want to use that for a plan, 8 this 2028 base case really gets most of the monitors, with 9 the exception of Desert View, into compliance with your 10 level, so this tends to be your plan. This is kind of a 11 tertiary benefit of using oil and gas. 12 And looking at this at another way, what you see 13 on this slide is this graphically. So, at Navajo Lake, 14 you started out at 67; you, by implementing the base 15 case -- the future-year base case, you get down to 65 ppb, 16 and you're only decreasing to 63.3. And if you look over 17 on this slide, here's the decrease of 2.2 and Navajo Lake 18 is -- is -- the oil and gas is reducing 1.5, but you're 19 talking about concentrations of 65 ppb, 5 ppb below the 20 standard. 21 So if you're simply looking at reductions without 22 the context of what the -- the real total concentration is 23 that the population is exposed to, tends to be misleading. 24 This is the same presentation for Carlsbad City. Ramboll 25 did not analyze Carlsbad National Park, but what you see

457 1 is, you know, 67, and the base case where Carlsbad City is 2 only reducing it .3 ppb. And remember, these are for NOx 3 and VOC controls combined. 4 I think Mr. McNally presented a very useful 5 analysis of NOx versus VOC, and I think it's the first 6 approximation, what he showed was the really insignificant 7 results in terms of ozone, regarding VOC controls. And 8 when you -- you -- and Mr. Morris indicated that many of 9 the grid cells where you were seeing an increase in ozone, 10 were close to major NOx sources. 11 So I think the issue is, when you look at the 12 issue of VOC controls, it's important to look at where 13 the -- where the VOC increases are causing increases in 14 emissions and where -- where they're located and what is 15 the magnitude of those -- those ozone levels. And that 16 has not been presented. Again, that's sort of a technical 17 side issue. 18 Let me just conclude here: I really feel pretty 19 strongly that the 2028 future-year base case is really the 20 plan that you need to implement for staying within 95 21 percent of the NAAQS. I think you really -- I think it 22 would be very interesting to look at the issue of NOx 23 versus VOCs. I think that's -- that's something that is 24 really sort of deficient. And I agree with Mr. McNally, 25 that it would have been very nice to have those done	459 1 So here are the names of the folks and I'll call you 2 in this order: Kendra Pinto, J. T. Stewart, Cliff Stock, 3 Marcy Petrovsky, John Waters and Jennifer Grassham. So 4 let me look for Ms. Pinto first. 5 And public comment is limited to five minutes and 6 it is given by audio, not video. So let's see. I don't 7 see Ms. Pinto on here. It goes Kaitlin, Keefer, Ken, Kim, 8 so, no. In the event Ms. Pinto joins us, I'm happy to 9 unmute her. Let me try J. T. Stewart. 10 All right. It just takes a moment to -- no, I 11 don't see J. T. Stewart. I saw him earlier, I believe, 12 but not right now. Let me move to Cliff Stock. 13 Mr. Stock, is he on with us. No? Oh, you know what? I 14 see some new call-in users. Sorry. Here, I'm going to 15 unmute caller 10. Caller 10, will you please identify 16 yourself? Caller 10, I've unmuted you. Okay. Caller 10 17 may have stepped away. Let me unmute Caller 12. Caller 18 12, can you hear me? 19 MR. KNIGHT: Madam Hearing Officer, this is 20 Andrew Knight. 21 HEARING OFFICER ORTH: Oh, Andrew Knight? 22 MR. KNIGHT: Yes, I have dialed in because I'm 23 having connectivity issues. 24 HEARING OFFICER ORTH: Okay. So I know that 25 you're Caller 12. I'm going to -- I don't think I can
458 1 upfront. I think the documentation regarding the 2 emissions inventory is important for the Board, because 3 they're ultimately going to have to deal with this in a 4 regulatory constraint. 5 I think that's really all I have to say. I'll be 6 glad to take questions. 7 HEARING OFFICER ORTH: Thank you, Mr. Blewitt and 8 Mr. Rose. We are just a few minutes from our 1:00 public 9 comment session. So, Mr. Blewitt, I have, I believe, just 10 four commenters, I believe, and then we will turn to your 11 questioning. 12 So let me -- let me get rid of the presentation 13 mode for you. Hold on. I'll give it back to you shortly, 14 Mr. Blewitt. 15 MR. BLEWITT: Okay. 16 HEARING OFFICER ORTH: All right. So we are at 17 the 1:00 public comment period for day two of the hearing. 18 Let me give you the names of the folks I have who reached 19 out on email to request this slot. 20 If you are on the platform and you would like to 21 make public comment and did not reach out by email, that's 22 perfectly fine. Simply reach out to us in the Chat here, 23 which is enabled for everyone. And if you have any 24 trouble reaching out on Chat, please call or text (505) 25 660-4305.	460 1 make you a panelist. I'm just going to mute you or 2 perhaps you would just mute yourself, Mr. Knight. 3 MR. KNIGHT: Will do. 4 HEARING OFFICER ORTH: All right. Thank you. 5 Let me see if I have any other call-in users. I don't. 6 All right. So I don't see Mr. Stock. Who was next? 7 Marcy Petrovsky. I'm sorry if I am mispronouncing your 8 name. No? Well, I'm striking out here. 9 And let's see. John Waters. I think I remember 10 Mr. Waters from the -- from the Water Quality Control 11 Commission. Mr. Waters, can you hear me? 12 MR. WATERS: I can hear you. Can you hear me? 13 HEARING OFFICER ORTH: Terrific. Yes, very 14 clearly. So I'm going to start your clock at five 15 minutes. Let me ask you first, though, to raise your 16 hand. Do you swear or affirm to tell the truth? 17 MR. WATERS: Yes, I do. 18 HEARING OFFICER ORTH: Thank you. Your five 19 minutes starts now. 20 JOHN WATERS, 21 having been first duly sworn or affirmed, 22 gave public comment as follows: 23 PUBLIC COMMENT OF JOHN WATERS 24 MR. WATERS: Excellent. Thank you. 25 Mr. Chairman, members of the Board, I want to thank you

461 1 for the opportunity to comment on this. I am John Waters, 2 I am the executive director for the Carlsbad Department of 3 Development. As Felicia mentioned, I am also a former 4 member of the Water Quality Control Commission. I was a 5 wastewater superintendent and environmental manager and 6 environmental regulator in my past life; probably the only 7 economic development director with advanced degrees in 8 environmental biology. It's a strange -- a strange path 9 we run on. 10 I'm going to please ask you to consider, while 11 considering this methane regulation, I want to ask you to 12 think about the amount of methane that's actually out 13 there -- human-caused methane that's out there, and the 14 magnitude of what's out there above and beyond the smaller 15 sources that you anticipate looking at. 16 And, of course, the San Juan Mine always sticks 17 up; at least in '19, its methane emission was metric 18 tons-wise of carbon dioxide, of methane, was, you know, 19 565,000. And that's -- that's way, way up there, but if 20 you look at the -- of the top 10 out of the top 15 methane 21 sources there are in the State of New Mexico, by far and 22 above, landfills are your biggest problem. And there's a 23 lot of those that are uncapped at all. And I do want you 24 to consider the magnitude of the amount of even the 25 smaller landfills that are out there, and even some of the	463 1 know, we've -- we've had people talk about refineries and 2 different things of that nature, they're far down on the 3 scale as far as point sources of emission. 4 So I would suggest that rather than focus 5 regulations on an industry that is so spread out, and 6 even, collectively -- even collectively, it still doesn't 7 rate up to what the entire New Mexico gas transmission 8 system rates across the state, as far as total metric tons 9 of emissions on an annual basis. You know, definitely 10 going after 15 or 20 landfills and even -- even helping 11 out with, from the state-side, with monetary resources to 12 cap those landfills and collect that gas, would be a far 13 better use of the state's, you know, both the regulatory 14 mind of the state, as well as the monetary resources that 15 the state has. 16 I think the oil and gas industry has a lot of 17 benefits -- people are going to talk about those -- on our 18 education and things to come. And they've done a lot of 19 voluntary work; we've seen it down here in the Carlsbad 20 area across the board, whether it's on the midstream 21 industry or upstream or even downstream, there's been a 22 lot of voluntary work. And I know that they've been 23 willing to continue to move forward. 24 There are new midstream plants moving in and the 25 number of flared wells are going to be dropping as soon as
462 1 capped landfills, still emit a significant portion of 2 methane into the atmosphere. 3 And if you're looking for your best bang for your 4 buck as far as the state goes, to maybe regulate and look 5 at a little bit harder, I would say -- I would suggest 6 that you first of all take a very strong look at the 7 landfills across the State of New Mexico, and see how that 8 can be captured, because, by far, that is a much bigger 9 bang for your buck than going after and having to regulate 10 an industry with numerous, you know, 44,000 wells across 11 the State of New Mexico. 12 The amount of money, the amount of time necessary 13 to regulate that, given the fact that these wells don't 14 emit per well a significant portion of -- you know, of 15 methane into the atmosphere. I think your -- you know, 16 the Board would definitely get better bang for their buck, 17 better regulatory bang, a better ability to control 18 methane if they focused heavily on the landfills in the 19 State of New Mexico, because they do contribute a 20 significant amount. 21 Coal-fired power plants and other things, given 22 the coal industry, if that is being looked at really 23 heavily, obviously, there is a power plant up north that's 24 getting ready to shut down, but there is a significant 25 amount of methane that comes from those. If you, you	464 1 the infrastructure is in here. I just think that at this 2 particular time in our -- if we're truly looking at trying 3 to reduce human impact on methane emissions from the State 4 of New Mexico, go after those 15 or 20 sources out there 5 and see if we can't do something to capture that methane 6 before going after something that is so spread out across 7 the State of New Mexico and so difficult to enforce. So 8 thank you again for your time. I do appreciate it. We're 9 very supportive of the industry down here, as you can 10 imagine. But I think -- I think if you're looking at 11 methane, you've got a bigger, bigger animal to hunt, so to 12 speak. 13 HEARING OFFICER: All right. Thank you very 14 much, Mr. Waters. 15 MR. WATERS: Thanks. 16 HEARING OFFICER ORTH: I believe I saw Jennifer 17 Grassham. Here we are. Ms. Grassham, I'm unmuting you. 18 MS. GRASSHAM: Can you hear me? 19 HEARING OFFICER ORTH: Yes, I can. This is 20 Felicia Orth, you are on the public comment session. 21 Public comment is taken by audio and is limited to five 22 minutes. All comment has to be given under oath. If you 23 would raise your right hand. Do you swear or affirm to 24 tell the truth? 25 MS. GRASSHAM: I do.

465 1 HEARING OFFICER ORTH: Thank you very much. I'll 2 start your five minutes now. 3 JENNIFER GRASSHAM, 4 having been first duly sworn or affirmed, 5 gave public comment as follows: 6 PUBLIC COMMENT OF JENNIFER GRASSHAM 7 MS. GRASSHAM: Good afternoon. My name is 8 Jennifer Grassham, and I am the President and CEO of the 9 Economic Development Corporation of Lea County. My story 10 is inextricably linked to the oil and gas industry. As an 11 almost lifelong resident of Hobbs, New Mexico, I'd have a 12 hard time actually telling you how the oil and gas 13 industry has not impacted me. 14 I'm the daughter of a schoolteacher and an 15 oilfield worker, and not only did the oil and gas industry 16 support my family directly through my father's employment, 17 but as a public schoolteacher, my mother's employment was 18 supported in no small part by the oil and gas industry. 19 As I'm sure you know, last year oil and gas 20 provided 1.4 billion for public schools and higher 21 education. And I am here today as a product of the Hobbs 22 Municipal Schools, as are my three children, two of whom 23 are currently in elementary school in Hobbs. 24 Oil and natural gas is an essential part of New 25 Mexico's economy, responsible for more than 134,000 New	467 1 production. As New Mexicans, we don't settle for 2 either/or. We're wired for both/and. 3 We can meet policy objectives while continuing to 4 support economic growth and job creation. I completely 5 support efforts to protect our air and natural resources, 6 but we shouldn't balance this on the backs of New Mexico 7 working families. The course we are on today will simply 8 drive work and wealth to Texas. 9 Through more flexible regulations, New Mexico can 10 be in the driver's seat for developing creative solutions 11 to reducing emissions, not only in New Mexico, but around 12 the world. 13 Thank you for this opportunity today to provide 14 an on-the-ground perspective of how this proposed rule 15 will impact me, my family, my community in Lea County. 16 Thank you. 17 HEARING OFFICER ORTH: Thank you very much, 18 Ms. Grassham. 19 Let's see. I have someone reaching out through 20 Chat: Ann McCartney. Let me find Ann McCartney here. 21 Ms. McCartney, I am unmuting you. Can you hear me? 22 MS. MCCARTNEY: Yes. Can you hear me? 23 HEARING OFFICER ORTH: Yes. Very nice. You're 24 on the public comment session. Public comment is limited 25 to five minutes and must be taken under oath. If you
466 1 Mexico jobs, and 18.8 billion in economic activity, but it 2 would be a mistake to think about the oil and gas industry 3 as this monolith. There's incredible diversity in the 4 industry; from large global producers, to small, 5 mom-and-pop family businesses. The stories of first 6 generation immigrants, my neighbors, come into this 7 country, buying one truck, then two trucks and then 8 eventually running 20 trucks with 30 employees. These 9 stories are everywhere in Lea County. 10 These entrepreneurs not only support local 11 families, but they provide civic leadership in our 12 communities, they sponsor local girls softball teams, they 13 volunteer in the soup kitchen. Really, these families in 14 the oil and gas industry make countless contributions to 15 the great quality of life in Lea County. 16 I'd encourage you to adopt more flexible 17 regulations that respond to the diversity present in oil 18 and gas. We've already heard that one size fits all for 19 having unintended consequences, such as shutting 20 significant production, and especially concerning, forcing 21 small businesses to close. 22 As New Mexicans, we celebrate diversity, 23 creativity in caring for our neighbors. The industry is 24 investing and developing advanced technologies to limit 25 emissions and reduce environmental footprint of	468 1 would raise your right hand. Do you swear or affirm to 2 tell the truth? 3 MS. MCCARTNEY: I do. 4 HEARING OFFICER: Thank you. I'll start your 5 five minutes now. 6 ANN MCCARTNEY, 7 having been first duly sworn or affirmed, gave public 8 comment as follows: 9 PUBLIC COMMENT OF ANN MCCARTNEY 10 MS. MCCARTNEY: Thank you. Thank you for this 11 opportunity to make public comment on these important 12 rules. My name is Ann McCartney. And I am co-chair of 13 New Mexico Inner Faith Power and Light, which is a 14 faith-based organization addressing the issues around 15 climate change. 16 I would like to first bring to the attention of 17 the Board that the recent IPCC report, which is the 18 International Panel on Climate Change, emphasized that the 19 first and most important thing we can do is to make rapid 20 reductions in methane emissions. Methane has over a 21 period of 20 years, in the atmosphere, 85 times more 22 global warming potential than CO2. Therefore, rapid 23 removal of methane leaks and waste would have a dramatic 24 effect, while also helping to limit other pollutants that 25 create warming and worsen air quality.

469 1 New Mexico is positioned to be a leading state in 2 reducing methane waste and leaks. It is my understanding 3 that the proposed rule is certainly a step in the right 4 direction. It's strong and it's important, first of all, 5 that the Board adopt the rule, but also to strengthen it 6 so that we are a leading state in reducing methane and the 7 VOCs or the VOCs emissions for our very precious state. 8 Those additional strengths or the requirements 9 that would strengthen the existing proposed rule would be 10 to have more protections for people who live close to the 11 development or the production from oil and gas wells, by 12 having more frequent inspections. 13 The second requirement that needs to be added is 14 inclusion of strong requirements for the completion and 15 development of those wells, so that the methane is not -- 16 and the VOCs are not released at the time they're either 17 completed or redeveloped. 18 The third requirement that I would ask the Board 19 to consider including would be about the pneumatic 20 controllers; that pneumatic controllers need to be 21 inspected and the state needs to make sure that there's an 22 acceleration of a timeline to retrofit existing equipment 23 for zero bleed and zero emissions controllers. 24 My husband suffers from asthma. The continuing 25 result of the methane emissions and the VOCs emissions	471 1 swear or affirm to tell the truth? 2 MS. WILSON: I do. 3 HEARING OFFICER ORTH: Thank you. I'm going to 4 start your five minutes now. 5 SHARON WILSON, 6 having been first duly sworn or affirmed, 7 gave public comment as follows: 8 PUBLIC COMMENT OF SHARON WILSON 9 MS. WILSON: Thank you. My name is Sharon 10 Wilson. I'm senior field advocate and OGI thermographer 11 for Earthworks. Thank you for taking my testimony. I 12 worked for the oil and gas industry. The pay was great, 13 but I left because their ethics are not great. I bought 14 beautiful land in the country where my sons and animals 15 could run free, but the impacts from living near oil and 16 gas drove me away from my home and toward my life's work; 17 helping others who are suffering from those same impacts. 18 In 2014, I became a certified optical gas imaging 19 thermographer. I have the same certification and use the 20 same equipment industry and regulators use. I have 21 documented emission at many thousands of oil and gas sites 22 throughout the U.S. and other countries, and that includes 23 hundreds of sites in New Mexico. I have more experience 24 and time behind an OGI camera than many regulators or 25 industry thermographers. My video evidence is credible
470 1 from our Permian Basin development and what's occurred 2 already in the Northwest portion of the state, has 3 impacted the air quality for New Mexicans across the 4 state. And now, with the increase of global -- the 5 greenhouse gas emissions raising the temperature across 6 New Mexico and across the world, we are experiencing 7 increased fires and smoke, and the air quality has been 8 extremely poor, not only this year, but in previous years. 9 This impacts a lot of people in terms of their 10 ability to breathe. If you can't breathe, it's really 11 hard to stay alive. So I cannot more strongly urge this 12 Board to undertake adopting and strengthening the proposed 13 rules that came from New Mexico Environment Department. I 14 appreciate your time and consideration of these comments. 15 HEARING OFFICER ORTH: Thank you, Ms. McCartney. 16 We'll turn next to Sharon Wilson. I have a few people 17 reaching out by Chat here. Ms. Wilson, I am unmuting you. 18 Can you hear me? 19 MS. WILSON: I can hear you. 20 HEARING OFFICER ORTH: You're a little soft. 21 MS. WILSON: I can hear you. Can you hear me? 22 HEARING OFFICER ORTH: Okay. Just keep your 23 voice up if you would. We're making a transcript. Public 24 comment is taken under oath and is limited to five 25 minutes. If you would raise your right hand. Do you	472 1 evidence. It deserves that presumption. 2 Here's what I've learned from years of 3 documenting oil and gas emission sources in New Mexico. 4 The term leaks is frequently misused regarding methane 5 emissions. What I see most often are equipment 6 malfunctions and routine intentional releases. Some are 7 part of the system design and some are deliberate dumping 8 of methane gas. Operators, whether large or small, cannot 9 keep flares lit or properly operating. Vent -- unlit 10 venting flares and flares with incomplete combustion are 11 prevalent. 12 Operators do not maintain Enardo-type pressure 13 valves. Instead, they use them as a way to dump methane 14 gas into the air. At least 19 workers have died opening 15 tank hatches to sample and gauge liquid. The hatches are 16 left open or they become corroded and emit constantly. I 17 even see this practice at sites with vapor recovery. What 18 is the point of vapor recovery when tank hatches are 19 opened, allowing the gas to escape? Vapor recovery 20 systems malfunction often. I've documented them emitting 21 for days, weeks, months, without penalty. 22 Most are dependent on reliable electricity and 23 some on proper flare operations. Without those, there's 24 no vapor recovery. But we find vapor recovery 25 malfunctions for many other reasons. Blowdowns of

473 1 pipelines and compressor stations are routine and often 2 unreported. 3 Any rules must target all blowdowns and pipeline 4 pigging. Some of the worse emission events I've seen come 5 from completions and recompletions. People living and 6 working anywhere near oil and gas facilities need 7 protection, with stronger rules and more frequent 8 inspections. Methane rules are not enough. And rules are 9 only words on paper without vigilant investigations and 10 meaningful penalties. 11 Colorado has good rules, but those do not 12 translate to significant improvements in the field or 13 relief for families living in the oil and gas patch. 14 Don't permit new sites unless you have the capacity to 15 enforce your rules. Right now, you clearly do not have 16 that capacity. 17 The International Energy Agency and the 18 Intergovernmental Panel on Climate Change agree that what 19 is most needed is a halt to new oil and gas investments, 20 and a rapid and just transition away from fossil fuels to 21 100 percent renewable energy. 22 Thank you for your time. 23 HEARING OFFICER ORTH: Thank you, Ms. Wilson. 24 Okay. I don't have anyone else who reached out 25 by Chat to make comment. Let me see if I still have a	475 1 Officer. 2 HEARING OFFICER: All right. Thank you. 3 Ms. Devore? 4 MS. DEVORE: No questions. Thank you. 5 HEARING OFFICER ORTH: All right. Mr. Nykiel? 6 MR. NYKIEL: No questions. Thank you. 7 HEARING OFFICER ORTH: Okay. Mr. de Saillan? 8 MR. DE SAILLAN: No questions. Thank you. 9 HEARING OFFICER ORTH: Thank you. Let's see. 10 Mr. Hiser? 11 MR. HISER: No questions. Thank you, Madam 12 Hearing Officer. 13 HEARING OFFICER ORTH: All right. Mr. Janoe? 14 I don't hear Mr. Janoe. 15 MR. JANOE: No questions, Madam Hearing Officer. 16 HEARING OFFICER ORTH: Okay. Thank you. Let's 17 see. Mr. Butzier? 18 MR. BUTZIER: No questions. Thank you. 19 HEARING OFFICER ORTH: All right. Ms. Gutierrez? 20 MS. GUTIERREZ: No questions, Madam Hearing 21 Officer. 22 HEARING OFFICER ORTH: Thank you. 23 Mr. Colclasure? I don't hear anything. 24 MS. SHPALL: This is Casey Shpall for the 25 Commercial Disposal Group. There are no questions.
474 1 call-in user that we did not identify. I'll try one more 2 time with call-in user 10. Call-in user 10, can you hear 3 me, and will you identify yourself? 4 Okay. That's all we have, I think, for this 5 public comment session. Let's return to the technical 6 case. Let's see. At some point -- we do have a Board 7 member request of the Department to identify the entity 8 that would oversee landfill emissions. 9 But let's turn to Mr. Blewitt's questioning 10 before we return to any Department statements. 11 Mr. Blewitt, I'm going to give you presentation privileges 12 again. Just give me a second. 13 You can pull your -- pull your slides back up if 14 you'd like. You should -- you should have that privilege 15 now. So let's turn first to either Mr. Katz or -- 16 Ms. Katz or Mr. Knight. 17 MS. KATZ: No questions from the Department. 18 HEARING OFFICER ORTH: Thank you. Ms. Fox? 19 MS. FOX: No questions, Madam Hearing Officer. 20 Thank you. 21 HEARING OFFICER ORTH: All right. Ms. Paranhos? 22 MS. PARANHOS: Thank you. I have no questions 23 for this witness. 24 HEARING OFFICER: All right. Professor Pacyniak? 25 PROFESSOR PACYNIK: No questions, Madam Hearing	476 1 HEARING OFFICER ORTH: Okay. Thank you, 2 Ms. Shpall. And Ms. Witherspoon? 3 MS. WITHERSPOON: No questions. Thank you. 4 HEARING OFFICER ORTH: Thank you. Going to turn 5 now to the Board members in the event they have questions. 6 While I'm doing that, if you are an attendee and have a 7 question of Mr. Blewitt, please reach out through the Chat 8 and we'll make that happen. 9 REBUTTAL EXAMINATION OF DOUG BLEWITT BY THE BOARD 10 HEARING OFFICER ORTH: So, Madam Chair, do you 11 have questions of Mr. Blewitt? 12 CHAIRPERSON SUINA: No questions at this time, 13 Madam officer -- Madam Hearing Officer. 14 HEARING OFFICER ORTH: Thank you. Vice-Chair 15 Trujillo-Davis? 16 VICE-CHAIR TRUJILLO-DAVIS: I do not have any 17 questions. Thank you. 18 HEARING OFFICER ORTH: Thank you. Member Cates? 19 BOARD MEMBER CATES: No questions here. Thank 20 you. 21 HEARING OFFICER ORTH: All right. Member Bitzer? 22 BOARD MEMBER BITZER: No questions. 23 HEARING OFFICER ORTH: Okay. Member Duval? 24 We can't hear you. 25 BOARD MEMBER DUVAL: Sorry, I was on mute. Yes,

477 1 I do have -- I do have some questions. And this is a 2 point of clarification. I'm still -- so what we're 3 looking at with all of the tables and figures, we're 4 looking at the output from the model data. And I'm still 5 a little confused as to what the input parameters are. 6 And I asked this to one of the previous -- previous 7 presenters, as far as what they were using as far as 8 weather input, and that was only for 2014. I think he did 9 a good job answering that. 10 I'm wondering what exactly are -- this is to 11 Mr. Blewitt; like, what, what -- what climate and weather 12 inputs do you put into this modeling, like, specifically 13 the Ramboll? 14 MR. BLEWITT: The model uses input meteorological 15 data that is obtained from the WRF forecasting model that 16 is run in a historical mode. So it uses observations from 17 various locations and then it computes wind fields over 18 the domain over the various grid sizes that Mr. Morris 19 talked about. 20 So in the 36-kilometer grid, you are looking at a 21 uniform wind over 36 kilometers in vertical layers, and 22 each of those vertical layers will have different wind 23 speeds. As you get down to 4 kilometers, you are using 24 smaller and smaller pieces. But what you're really 25 looking at is you're looking at historical data based on	479 1 maybe extrapolate, but unfortunately, things here are not 2 linear. 3 BOARD MEMBER DUVAL: Yeah, and I fully -- I've 4 done quite a bit of modeling work, so I fully appreciate 5 that. I guess my -- I should phrase this a little more, 6 like, higher order. I guess I'm still a little confused 7 of what the input parameters are, as far as like, if 8 you're also looking at things like evapotranspiration, 9 interactions with greenhouse gas, soil parameters, UV 10 input, because that's clearly an important aspect of ozone 11 formation. So I guess I -- we can talk about the nuts and 12 bolts of it maybe offline at some other point, but... 13 HEARING OFFICER ORTH: Mr. Blewitt, I'm sorry to 14 interrupt, Member Duval. Mr. Blewitt, I'm seeing that 15 you're having some struggles with video. My suggestion 16 would be to turn off your video and remain unmuted for the 17 rest of the questions. Things are cutting in and out a 18 little bit, and I see a little yellow flag for you. 19 I'm sorry. Member Duval, please go ahead. 20 BOARD MEMBER DUVAL: No, that's just -- for 21 everyone else my principal question was, I just want to 22 know what the inputs are to the model because all we've 23 really seen is the outputs. We've seen the data and the 24 model's projected. They project that, but you know, 25 models are only as good as what you put into them.
478 1 observations and meteorological modeling. And ideally, 2 you should be modeling more years -- additional years of 3 meteorological data because, as you were told by 4 Mr. Morris, what you're really doing -- and Mr. McNally, 5 you're really referencing everything to a specific state 6 of meteorological conditions. 7 Now, the questions you're asking are very, very 8 good. One of the things you have to remember is this 9 modeling is incredibly computer resource intensive. From 10 my experience a number of years ago -- and I think it's 11 probably not as bad as what I'm going to say now -- but to 12 run 24 hours of data in the -- through the CAMx model, not 13 including the meteorological model, not including the 14 emission processing model is about realtime. So 24 hours 15 of computer time would be needed -- needed to run one day 16 of simulation. And what you do is you parse it out to 17 different processes. 18 So the issue of making many, many model runs 19 becomes a resource limit in terms of computer power. And 20 I think -- I mean, I think the question you're asking and 21 the way I would address this is, taking the most recent 22 data in terms of years of meteorological data, running 23 that through WRF for the current climate conditions and 24 comparing it to 2014 and see what you get. That at least 25 gives you two data points that you could -- you could	480 1 That's -- so I was just trying to get a better handle on 2 that. That was really my only question. Sorry if it took 3 me a while to get there. 4 HEARING OFFICER ORTH: Thank you. Member Garcia? 5 BOARD MEMBER GARCIA: I have no questions. Thank 6 you. 7 HEARING OFFICER ORTH: Okay. Thank you. 8 Member Honker? 9 BOARD MEMBER HONKER: Well, is Mr. Blewitt still 10 on? 11 HEARING OFFICER ORTH: He is still on and he's 12 unmuted, but he was clearly having bandwidth issues. 13 Mr. Blewitt, can you hear us? 14 Oh, gosh. Okay. Now we've lost him altogether. 15 Excellent question, Member Honker. We lost him right 16 there. Let's give him a moment in the event he can rejoin 17 us. 18 BOARD MEMBER HONKER: I did have a question for 19 him, but I wanted to make sure he was -- he was available. 20 HEARING OFFICER ORTH: Yeah. And one 21 possibility, Mr. Rose, is for you to put him on speaker. 22 You might be trying to do that right now. 23 MR. ROSE: I was trying to text him to see what 24 the problem is. 25 HEARING OFFICER ORTH: Okay.

481 1 BOARD MEMBER DUVAL: And Madam Hearing Officer, 2 if I may? 3 HEARING OFFICER ORTH: Yes. 4 BOARD MEMBER DUVAL: I -- I need to go to take 5 students out to the desert to do field work right now, but 6 if I could put my question in the Chat that you could ask. 7 I really just have a pretty simple question about model 8 input. And also, if the model is freely available, that 9 way it could be evaluated. And this is perhaps a question 10 for the state, but if -- if there is the source code 11 available and, you know, Python or R or C-Plus, something 12 like that, that could be evaluated by the public in an 13 open source manner. I would -- I would be interested to 14 know if that's the case. 15 HEARING OFFICER ORTH: Thank you. If you put it 16 in the Chat, I'll be sure to pose it in your words. 17 BOARD MEMBER DUVAL: Absolutely. Thank you very 18 much. 19 HEARING OFFICER ORTH: Thank you. 20 MR. ROSE: Madam Hearing Officer, it appears that 21 Mr. Blewitt's computer froze, so I don't know if he's 22 going to be on here. 23 HEARING OFFICER ORTH: So he hasn't joined the 24 attendees yet, which I think is where -- 25 MR. ROSE: It looks like he's trying to phone me.	483 1 HEARING OFFICER ORTH: Would it help if we just 2 took a ten-minute break? 3 MR. ROSE: It may. I hate to delay it, but -- 4 and I think most of the questions were done, but if you 5 want to take a five-to-ten minute break, hopefully he can 6 get back on. If not, I mean, he is testifying later, not 7 that that's optimal, but we can certainly make him 8 available to answer those questions. 9 MS. KATZ: Mr. Rose, when is he testifying later? 10 MR. ROSE: He's testifying in response to some of 11 the WildEarth Guardians proposals as to -- 12 MS. KATZ: Okay. 13 MR. ROSE: And I think there may be one other 14 area where he's testifying as well, so... I don't have 15 the spreadsheet in front of me. You probably do, but at 16 least as to the WildEarth Guardians' proposal, he filed 17 rebuttal testimony in response, so... 18 MS. KATZ: Yes, we have -- yes, okay. Thank you 19 for reminding me of that. 20 MR. ROSE: So if I get a text from him that he's 21 back on, hopefully, I'll let you know, but I don't know if 22 it's an equipment problem or a bandwidth-related problem, 23 so... 24 HEARING OFFICER ORTH: Okay. Let's just take ten 25 minutes and we'll come back. I will monitor the attendee
482 1 I suppose I could answer. 2 HEARING OFFICER ORTH: Yeah. All right. Well, 3 we'll wait just a moment because it seems like we're very 4 close to being done with the witness and I'd like to 5 finish. 6 MR. ROSE: Okay. No problem. And most of it, I 7 think you can -- we can do later, but let me -- let me get 8 back on. Hold on. 9 Madam Hearing Officer, his -- he's going to have 10 to reboot but he is going to testify later as well, so... 11 HEARING OFFICER ORTH: Okay. So Member Honker, 12 would you make a note of your question, please? And I'm 13 going to make a note of Member Duval's question. And when 14 Mr. Blewitt is back with us, we will reopen this 15 particular discussion. 16 BOARD MEMBER HONKER: Sounds good. 17 HEARING OFFICER ORTH: Thank you. Ms. Katz? 18 MS. KATZ: Madam Hearing Officer, can somebody 19 remind me when Mister -- when Mr. Blewitt is testifying 20 again? 21 MR. ROSE: Just text me when you're ready. 22 MS. KATZ: Lou, you're not muted. 23 MR. ROSE: I know. I just -- he is going to 24 reboot and he'll be on shortly. So it was Mr. Blewitt on 25 the phone.	484 1 list, Mr. Rose. We'll take ten minutes and come back at 2 1:45. And if Mr. Blewitt hasn't rejoined us by then, 3 we'll move on. 4 MR. ROSE: Thank you, Madam Hearing Officer. 5 (Recess taken from 1:37 p.m. to 1:45 p.m.) 6 HEARING OFFICER ORTH: Let's come back from the 7 break, please. All right. Mr. Rose, I did not see and do 8 not see at this moment, Mr. Blewitt among the attendees. 9 MR. ROSE: He's still trying to get on, Madam 10 Hearing Officer, so I suggest we now wait and if -- when 11 he's available, we can either put him back on or we can 12 save the questions for when he testifies again. 13 HEARING OFFICER ORTH: All right. Let's see. 14 And our next witness -- let me go to the spreadsheet. 15 MS. KATZ: Madam Hearing Officer, Mr. Morris has 16 surrebuttal still. 17 HEARING OFFICER ORTH: All right. Thank you. 18 Let's go to Mr. Morris. 19 MS. KATZ: And also I want to clarify that 20 Ms. Hollenberg is also testifying on this topic and so she 21 is up next, I believe. 22 HEARING OFFICER ORTH: All right. I'm happy to 23 take them in any order you prefer. Let's see. Do we have 24 Ms. Hollenberg with us? Maybe among the attendees? Tell 25 me her first name.

485 1 MS. KATZ: I believe so. Cindy. 2 HEARING OFFICER ORTH: Cindy. There, I see her. 3 I've made her a panelist. Does she have slides? 4 MS. KATZ: She does. Except I'm going to call 5 Mr. Morris -- or I mean, I guess I can put Ms. Hollenberg 6 on first and then Mr. Morris as surrebuttal. Either way. 7 HEARING OFFICER ORTH: Whatever you prefer. 8 MS. KATZ: I would rather do Mr. Morris's 9 surrebuttal because it's specific to the modeling. 10 HEARING OFFICER ORTH: All right. And would -- 11 MR. HISER: Madam Hearing Officer and Ms. Katz, I 12 thought we were going backward in surrebuttal order, 13 because we do have some surrebuttal from Mr. McNally. 14 MS. KATZ: Oh, yes, you're correct, Mr. Hiser. 15 So, yes, let's -- sorry, it's hard to get used to this 16 patterning. So yes, it would then be Mr. McNally next. 17 MR. HISER: Madam Hearing Officer, do you see 18 Mr. McNally in the participant list? 19 HEARING OFFICER ORTH: Let's see. His first name 20 was Dennis? 21 MR. HISER: Dennis, yes. 22 HEARING OFFICER ORTH: I do not. 23 MR. McNALLY: I'm here. 24 MR. HISER: Oh, he says he's here. 25 HEARING OFFICER ORTH: Okay. Sorry, I think I	487 1 your discussion, Mr. Blewitt, you made an issue that -- 2 that the requirements would not be federally enforceable 3 as you understood them. I'm -- I don't understand your 4 concern with that. I'm thinking of, for instance, the 5 drinking water program, where it's not unusual for a state 6 to have more stringent requirements than the EPA does, and 7 that does not seem to be a problem in the drinking water 8 program. 9 So why -- why do you think this not 10 federally-enforceable issue would be -- would be 11 substantial in this -- in this rule? 12 MR. BLEWITT: If you're -- if you're developing a 13 control strategy, EPA -- to be included in the SIP, all 14 emissions standards must be federally enforceable. And 15 that's -- that's a requirement of the Clean Air Act. If 16 you're dealing with a more stringent regulation on a state 17 level, EPA cannot enforce that state regulation. So it 18 becomes a quandary for both the State of New Mexico and 19 the source itself, because now it has two different 20 emissions loads. I mean, what we're talking about is tons 21 per years of NOx from a compressor engine. And if under 22 your more stringent requirements, that would be one ton 23 per year, and yet, what's actually federally enforceable 24 is some other value based on, for example, new source 25 performance standards, now we have -- there's a
486 1 already made him a panelist. 2 MR. McNALLY: You did. 3 HEARING OFFICER ORTH: And I do see Mr. Blewitt 4 here. He just showed up among the attendees. 5 MR. HISER: Do you want to do Mr. Blewitt first? 6 That would make more sense, if he's got audio. 7 HEARING OFFICER ORTH: Well, let's see if this 8 works. Mr. Blewitt, can you hear me? I keep -- for some 9 reason -- oh, there, it finally took. Mr. Blewitt, can 10 you hear me? I imagine you can see him among the 11 panelists. 12 MR. BLEWITT: Okay. I'm here. I apologize. 13 Everything just stopped and froze up. 14 HEARING OFFICER ORTH: All right. So thank you, 15 Mr. Hiser, for your indulgence here. 16 Mr. Blewitt, I believe we have just two more 17 questions for you, they're going to ask. 18 MR. BLEWITT: Okay. 19 HEARING OFFICER ORTH: Member Honker has a 20 question for you and then I have a question that was put 21 into the Chat by Member Duval, who had to depart. 22 FURTHER EXAMINATION BY THE BOARD OF DOUG BLEWITT 23 HEARING OFFICER ORTH: So Member Honker, if you 24 would. 25 BOARD MEMBER HONKER: Yes. Thank you. Early in	488 1 discontinuity for both the State of New Mexico, EPA, and 2 the source. 3 It's a practical matter, but I think the Board 4 and NMED need to think about how they're going to deal 5 with this from a policy regulatory impact. And I'm 6 looking at this from my time as being on the Colorado Air 7 Commission. So I'm looking at it from that perspective. 8 BOARD MEMBER HONKER: Well, I understand what 9 you're saying. I'm still -- I'm still not grasping the 10 practicality of the issue, but perhaps at the appropriate 11 time, NMED could -- could offer their thoughts on the 12 issue. Because having actually done air enforcement for 13 EPA at one point in my career, I'm -- I'm not seeing what 14 the issue would be here. But let's -- I'm fine tabling it 15 and -- and we'll see if NMED wants to weigh in on their 16 surrebuttal. 17 MR. BLEWITT: Ultimately, they're the group that 18 has to -- has to deal with this problem. I'm just 19 pointing it out as something that they need to think about 20 from a perspective of being enforceable. 21 BOARD MEMBER HONKER: Okay. Thank you. 22 HEARING OFFICER ORTH: All right. Thank you, 23 Member Honker. 24 So, Mr. Blewitt, the question from Member Duval 25 is: Are the model source codes or at least input

489 1 parameters available for public view? 2 MR. BLEWITT: That's -- that's a question that 3 Mr. Morris should be answering, but I will attempt to 4 based on my experience. The model -- the model source -- 5 MS. KATZ: I'm sorry. Madam Hearing Officer, 6 that -- that question is not appropriately addressed to 7 Mr. Blewitt because this is a modeling that was done by 8 NMED. And so Mr. Morris can talk about it. I mean, I can 9 talk about what we provided, you know, publicly, if -- if 10 we want. 11 HEARING OFFICER ORTH: Okay. I'm sorry, I was 12 merely being a conduit there for that. Let me ask you, 13 though, Mr. Blewitt, since I posed it to you. Ms. Katz 14 has said that the question was more appropriately put to 15 Mr. Morris, but in order to let you finish your sentence, 16 would you -- would you agree that question is more 17 appropriately put to Mr. Morris? 18 MR. BLEWITT: Yes. I believe I said that at 19 my -- part of the beginning of my sentence. 20 HEARING OFFICER ORTH: All right. Thank you. 21 And thank you, Ms. Katz. 22 And now before we let you go, Mr. Blewitt, we 23 have a question from Vice-Chair Trujillo-Davis. 24 VICE-CHAIR TRUJILLO-DAVIS: Thank you, Madam 25 Hearing Officer. Yes, actually, I just want to lend	491 1 whether that was really just a question from another Board 2 member that should be addressed in some other context. 3 HEARING OFFICER ORTH: So it was a question from 4 a Board member. I'll pause for a moment in the event he 5 wants to pose it himself. 6 BOARD MEMBER BITZER: Yeah, we heard during 7 public testimony -- this is Barry. During public 8 testimony we heard that -- from the fellow down in -- in 9 Carlsbad, that landfills were this rather sizable source 10 of methane. And I was wondering if we couldn't address it 11 in the moment while he was still on, whether or not this 12 agency even deals with that or not, but I imagine he's 13 gone by now, but I'm still curious. 14 MR. ROSE: Madam Hearing Officer, I can address 15 it or perhaps the Department can, but this Board actually 16 regulates landfills under the Solid Waste Act, and, 17 potentially, you could regulate it under the act as well, 18 but this Board has enforcement by the Department. 19 HEARING OFFICER ORTH: Okay. Thank you for that. 20 And Ms. Katz, if at some point you would like to 21 address it or have a witness like to address that, I'll 22 leave that to you. 23 So I believe we're done with Mr. Blewitt for the 24 time being. Thank you very much, Mr. Blewitt, for 25 persisting and getting back to us.
490 1 support to Member Honker's question. I think for the 2 purposes of this rule, we need a clarification on his 3 question. And whether that comes from maybe NMED or one 4 of the attorneys, I think it is really important to have 5 that answered completely and accurately. 6 MR. BLEWITT: I totally agree with you. 7 MS. KATZ: Madam Hearing Officer, I -- I would -- 8 I could offer Mr. Baca -- would be the person to answer 9 that question, but I would have to put Mr. Baca back on 10 for that question. 11 HEARING OFFICER ORTH: All right. Mr. Blewitt, 12 thank you very much. And let me ask, Mr. Rose, was there 13 any other follow-up or can we excuse Mr. Blewitt? 14 MR. ROSE: You can excuse him, and as to the 15 discussion about federal enforceability, whether it's 16 through Mr. Baca or -- because we're looking at the -- 17 what the legal implications are, it might be better 18 addressed by Department counsel rather than Mr. Baca, in 19 terms of what that means, in terms -- if it's not included 20 in the State Implementation Act. 21 But that concludes my -- my questions of this 22 witness. And I thought, Madam Hearing Officer, you posed 23 another question before we broke about enforceability 24 looking at landfill regulations. So I don't know if 25 that's -- if you wanted an answer to that as well, or	492 1 MR. BLEWITT: Thank you. 2 HEARING OFFICER ORTH: Thank you. And are we 3 turning now to Ms. Hollenberg or whom, Ms. Katz? 4 MS. KATZ: We are turning to NMOGA's witness, 5 Mr. McNally for rebuttal -- surrebuttal. 6 HEARING OFFICER ORTH: That was it. Thank you 7 for straightening me out there. 8 Mr. McNally, let's see. Oh, there you are. And 9 do you need presentation privileges? 10 MR. McNALLY: I do not. 11 HEARING OFFICER ORTH: Okay. Well, you're still 12 under oath. 13 MR. HISER: Thank you, Madam Hearing Officer. 14 DENNIS McNALLY, 15 having been previously duly sworn, was examined 16 and testified as follows: 17 SURREBUTTAL EXAMINATION OF DENNIS McNALLY 18 BY MR. HISER: 19 Q. Mr. McNally, would you like to respond to any of 20 Mr. Morris's testimony and NMED Rebuttal Exhibit No. 11? 21 A. I would, please. 22 Q. In Section 2.1 of Mr. Morris's rebuttal, he 23 stated that "Both VOC and NOx concentrations in the 24 presence of sunlight are required to form ozone 25 concentrations; thus, it's logical for an ozone mitigation

493 1 strategy to include both VOC and NOx emission controls." 2 Can you explain to the Board what your concern 3 about that statement is? 4 A. So my concern is that, yes, I totally agree that 5 ozone is formed by the interaction of VOCs and NOx, but 6 there is no requirement that a rule has to control both 7 precursors. For instance, there is -- like, for instance, 8 if you have a power plant control, that's going to be more 9 a NOx-oriented control. There's rules in place in Houston 10 about highly reactive VOCs. That would be a rule that was 11 developed specifically to address the NOx or the VOC 12 portions of their emissions inventory. 13 Q. And then in Section 2.3 of Mr. Morris's rebuttal, 14 he said at the bottom of page eight -- he said, "There's 15 no question that modeling indicates that ozone formation 16 in New Mexico is more NOx sensitive than VOC sensitive and 17 it's likely true that a majority of the ozone benefits of 18 Part 50 shown in the modeling are due to the NOx emissions 19 reductions, but that does not mean that there will be no 20 ozone reduction benefits from the VOC reductions." End of 21 his quote. 22 What comments do you have on this observation 23 from Mr. Morris? 24 A. So I mean, I never said that there would be no 25 benefit from the VOCs. And, you know, if there are -- my	495 1 whatever? 2 A. Yeah. Yeah, and the -- and the small amount of 3 extra NOx emissions from controlling the VOCs is probably 4 also not going to be a significant change in the ozone in 5 this state. 6 MR. HISER: I believe that's all that I had for 7 you, Mr. McNally. Thank you very much. 8 Madam Hearing Officer, I would make him available 9 if there were questions from any of the other parties. 10 HEARING OFFICER ORTH: Thank you. Ms. Katz, do 11 you have questions of Mr. McNally? 12 MS. KATZ: No questions, Madam Hearing Officer. 13 HEARING OFFICER ORTH: Thank you. Ms. Fox? 14 MS. FOX: No questions. Thank you very much. 15 HEARING OFFICER ORTH: Ms. Paranhos? 16 MS. PARANHOS: No questions. Thank you. 17 HEARING OFFICER ORTH: Professor Pacyniak? 18 PROFESSOR PACYNIK: No questions. Thank you. 19 HEARING OFFICER ORTH: Ms. Devore? 20 Mr. Nykiel? 21 MR. NYKIEL: No questions. Thank you. 22 HEARING OFFICER ORTH: Mr. De Saillan? 23 MR. DE SAILLAN: No questions. Thank you. 24 HEARING OFFICER ORTH: Okay. Mr. Rose? 25 MR. ROSE: No questions.
494 1 statement on this is, really, it's -- it has to do with 2 the degree of benefit on it. Each -- all -- each -- each 3 VOC contributes some ozone. The question in front of the 4 EIB is a matter of the significance, of whether the 5 changes in the air quality benefit from those emission 6 changes are worthwhile, putting the rule in place. 7 Q. And in Section 2.4, Mr. Morris discussed the 8 effects of not including NOx emissions increases due to 9 oil and gas VOC controls. 10 What thoughts do you have on that issue, about 11 the absence of NOx increases, or what can we draw from 12 that, that's helpful for the Board? 13 A. Well -- well, I agree with Mr. Morris that if 14 the -- I have no way of judging whether the number is 15 right, but if the -- if the increase in the NOx emissions 16 from the VOC controls is 67 tons per year, I believe, was 17 the number, I agree that that would be insignificant for 18 moving the needle on the -- on ozone, especially at the 19 tenth of a part per billion level that we're looking at. 20 Much like the impact of the VOC emissions over much of the 21 state, it's just an insignificant part of the ozone. 22 Q. So the substantive part of that is that 23 changes -- some change in the VOC emissions may not really 24 impact the ozone reductions we'll see under this rule? If 25 there was, say, an increase of a thousand tons or	496 1 HEARING OFFICER ORTH: Mr. Janoe? 2 MR. JANOE: No questions. 3 HEARING OFFICER ORTH: Mr. Butzier? 4 MR. BUTZIER: No questions. Thanks. 5 HEARING OFFICER ORTH: Ms. Gutierrez? 6 MS. GUTIERREZ: No questions. Thank you. 7 HEARING OFFICER ORTH: Thank you. Let's see. 8 Mr. Colclasure? 9 MR. COLCLASURE: No questions. Thank you. 10 HEARING OFFICER ORTH: And Ms. Witherspoon? 11 MS. WITHERSPOON: No questions. Thank you. 12 HEARING OFFICER ORTH: Thank you. I'm going to 13 turn to the Board in the event they have questions. While 14 we're doing that, please, if you are not a panelist and 15 you have a question, reach out through the Chat. 16 Madam Chair, do you have questions of 17 Mr. McNally? 18 CHAIRPERSON SUINA: Thank you, Madam Hearing 19 Officer. I don't have any additional questions. Thank 20 you. 21 HEARING OFFICER ORTH: Thank you. Vice-Chair 22 Trujillo-Davis? 23 VICE-CHAIR TRUJILLO-DAVIS: Thank you. I do not 24 have any questions. 25 HEARING OFFICER ORTH: Okay. Thank you. Member

497 1 Cates? 2 BOARD MEMBER CATES: No questions here. Thank 3 you. 4 HEARING OFFICER ORTH: Okay. Member Bitzer? 5 BOARD MEMBER BITZER: No questions. Thank you. 6 HEARING OFFICER ORTH: Thank you. Member Garcia? 7 BOARD MEMBER GARCIA: No questions. Thank you. 8 HEARING OFFICER ORTH: Thank you. And Member 9 Honker? 10 BOARD MEMBER HONKER: I have no questions. Thank 11 you. 12 HEARING OFFICER ORTH: Wow. All right. 13 Mr. McNally, you're getting off easy this time. So thank 14 you very much for your testimony. 15 All right. Ms. Katz, now is it time for 16 Ms. Hollenberg? 17 MS. KATZ: No, Madam Hearing Officer. Now it's 18 time for Mr. Morris's rebuttal. I think that's what we 19 decided, yes. 20 HEARING OFFICER ORTH: Okay. And will he have 21 slides? 22 MS. KATZ: No, I don't believe so. 23 HEARING OFFICER ORTH: Okay. That's fine. 24 Please go ahead. 25 MS. KATZ: Mr. Morris, are you -- are you on?	499 1 centered on the model base year, which was 2014, so I 2 would be using the base year design value for scaling to 3 the future year, from 2012 to 2016. So I agree with that. 4 But I disagree with him that it runs "counter" to 5 EPA's guidance. As in Section 6 of the EPA's 2018 6 modeling guidance, they talk about using alternative 7 projection techniques, and one of the things they 8 specifically mention is using an alternative base year 9 design value like I did, with 20 -- the design value from 10 2015 to 2019, provided that it is technically justifiable. 11 And as I showed in my testimony this morning, the 12 ozone design values in Southern New Mexico have been 13 increasing since 2012 to 2016, such that the -- they are 14 much higher today, for example, Carlsbad for the 2012 to 15 2016, the base year design value was 69 ppb, which is 16 below the NAAQS, yet the -- if I used the 2015 to 2019 for 17 the design value, is 73.7, so it's above the ozone NAAQS. 18 So it kind of doesn't make sense to project below 19 the NAAQS design value to get a fifth-year design that's 20 below the NAAQS, when the current, actual measured design 21 values are below the NAAQS. And I was also very careful 22 when presenting those results, both in the air quality 23 table support document from the New Mexico Ozone 24 Attainment Initiative and in my testimony, that this is an 25 uncertainty -- this is a sensitivity analysis. There are
498 1 HEARING OFFICER ORTH: He is a panelist. 2 Mr. Morris? 3 MS. KATZ: Let me see if I can get him. Hold on. 4 MR. MORRIS: There we go. I had to unmute 5 myself. 6 MS. KATZ: Oh, okay. Great. 7 HEARING OFFICER ORTH: Thank you, Mr. Morris. 8 RALPH MORRIS, 9 having been previously duly sworn, was examined and 10 testified as follows: 11 REBUTTAL DIRECT EXAMINATION OF RALPH MORRIS 12 BY MS. KATZ: 13 Q. Did you review NMOGA witness Mr. McNally's 14 rebuttal report? 15 A. Yes, I did. 16 Q. And in his rebuttal testimony, Mr. McNally stated 17 that it was "inappropriate and misleading" to include the 18 alternative 2028 ozone design value projection approach in 19 your testimony, that was based on observed base year ozone 20 design values from 2015 to 2019, rather than from 2012 to 21 2016, as recommended in EPA's guidance. Do you agree with 22 him on that point? 23 A. Well, I agree with Mr. McNally that the default 24 recommended projection approach in EPA's ozone modeling 25 guidance, because he used the base year design value	500 1 probably more uncertainties because the design values are 2 not for that meteorological year. 3 And there's been growth and emissions in the oil 4 and gas areas between 2014 and 2019, and there's been 5 reductions in emissions from things like other mobile 6 sources, so they add more caveats to that section. 7 Q. Okay. Thank you. 8 And do you agree with Mr. McNally -- oh, sorry. 9 Yes. Do you agree with Mr. McNally that it was 10 inappropriate and potentially misleading and is counter to 11 EPA's modeling guidance to present the episode maximum 12 modeled 2028 of oil and gas maximum daily average 8-hour 13 ozone concentrations due to New Mexico oil and gas 14 emissions for the 2028 oil and gas control strategy, as 15 you presented in Figure 19 of your direct testimony? 16 A. I disagree with that statement. There are many 17 ways to look at the ozone modeling results. We try to 18 look at it in as many different ways as possible. I'll 19 say that both Mr. McNally and I have analyzed the daily 20 ozone impacts in other studies, as well as the ozone 21 maximum that I have in Figure 19 in my testimony, either 22 shows the actual results from the modeling results. 23 And also, it does not run counter to EPA 24 guidance. In fact, he mentioned in Section 6 of the 25 modeling guidance, that, "That some types of absolute

501 1 model results may be used," to kind of support the use of 2 the model and the relatives, so it doesn't really counter. 3 And, you know, I didn't do this just for oil and gas in 4 the -- of the -- in the air quality technical support 5 document. I did it for other source categories, so you 6 can put oil and gas impacts into concept -- into context. 7 Excuse me. 8 Q. Okay. Thank you. 9 Do you have an opinion from Mr. McNally's 10 statement that the color scale used in your depiction of 11 the 2028 VOC/NOx sensitivity ozone formation conditions in 12 Figures 20 through 22 in your direct testimony, are 13 potentially misleading? 14 A. No, I think it's very clearly labeled. The scale 15 is kind of focused more on the NOx sensitive ozone because 16 that's where the changes are. And the scale is very 17 specific. I even kind of highlighted it in my testimony 18 this morning, where the 50 percent NOx sensitive ozone is, 19 versus 75 or 80 percent. 20 And his concern that someone could be misled if 21 they didn't consider the scale, I think is -- could be 22 said about any -- any plot like that. If you don't look 23 at the scale, you can be misled, if you just assume that 24 the colors mean things that they don't. 25 Q. Okay. Does ozone modeling typically include	503 1 So I'd like to turn to Mr. Blewitt's rebuttal 2 report. Did you review that report? 3 A. Yes, I did. 4 Q. So Mr. Blewitt states that both EPA and NMED have 5 defined an ozone concentration less than 1 ppb to be -- to 6 be insignificant, and if emissions from a single source or 7 similar group of sources have impacts that are less than 8 the significant level of 1 ppb, then it does not 9 contribute to ambient ozone concentrations. Do you agree 10 with that? 11 A. I think Mr. Blewitt is taking the 1 ppb 12 significant impact level out of context. It's used in the 13 PSD, or prevention of significant deterioration air 14 permitting program. So they get the new source, the 15 modified source that has to get a PSD permit. If you can 16 show that its maximum, ever, daily ozone impact is below 1 17 ppb, then you -- then it's assumed to not have a 18 significant contribution to the NAAQS and you don't have 19 to do a cumulative analysis where you can pair up the 20 contribution of all sources to the NAAQS. So that's for 21 PSD permitting. 22 What we're doing here is more like an ozone SIP 23 analysis, where we're -- you know, we need to figure out 24 how to get our -- our -- the ozone down to below the NAAQS 25 or below 95 percent of the NAAQS. And that's a
502 1 impacts from both NOx and VOC together? 2 A. Yes. 3 Q. And do regulations and control strategies for 4 ozone nonattainment areas typically require reductions of 5 both pollutants? 6 A. Yes, they do. 7 Q. And are the ozone reductions that we're seeing in 8 this modeling typical for ozone modeling evaluating a 9 single source sector control strategy? 10 A. Yes. A control strategy has many source sectors 11 with controls on them and this is just one. And getting a 12 1.5 reduction -- ppb reduction in ozone design values is a 13 pretty -- a pretty good -- pretty good amount. 14 Q. And are control strategies like this regulation 15 shown to actually reduce ozone concentrations? 16 A. Yes. There have been many over the years dating 17 back to my -- I started looking in the 1970s, to see large 18 reductions in ozone concentrations in many of the worse 19 nonattainment areas like Los Angeles. 20 Q. Okay. And can the reductions that are being 21 shown by the modeling make the difference between an 22 attainment and a nonattainment designation, or between a 23 higher or lower nonattainment classification? 24 A. Yes. 25 Q. Okay. Thank you.	504 1 different -- that's a combination of all different -- you 2 know, usually it's a SIP, they each have a combination of 3 all different control measures. Any one of those measures 4 may not make a difference of more than 1 ppb. 5 Then the third item on that, is that the SIL -- 6 the 1 ppb significant impact level for ozone is for the 7 daily 8-hour ozone concentration. And what Mr. Blewitt is 8 quoting is on 2028 design values. And even with that, 9 there's a -1.5 ppb reduction at Navajo Lake, which is 10 greater than 1 ppb. 11 Q. Okay. And so do you -- so you might have covered 12 this, but, so do you agree with Mr. Blewitt's statement 13 that the change between the 2028 future-year base case and 14 the 2028 future base case with oil and gas controls added 15 is generally less than 1 ppb and, therefore, oil and gas 16 does not contribute to any ozone exceedance? 17 A. I sort of disagree with that, in that, that's for 18 a -- the 1 ppb significant impact level is for the highest 19 daily 8-hour ozone concentration. And he's applying it to 20 a 2028 ozone design value projection, so that's 21 inappropriate. 22 And I gave some examples in my direct testimony 23 of maximum daily ozone impacts due to the oil and gas 24 control strategy that were well above 1 ppb, including, 25 you know, the actual maximum of 7.6 ppb for the nonpoint

505 1 oil and gas control zone, and 5.4 ppb for the point oil 2 and gas control strategy contributions. 3 Q. Okay. And Mr. Blewitt states that modeling 4 indicates oil and gas sources do not cause exceedances of 5 the current NAAQS or the 95 percent threshold, a source 6 contributes to an exceedance of the NAAQS if individual 7 impacts are above the significance level. EPA and NMED 8 have indicated that the ozone significance level is 1 ppb. 9 Can you address that? 10 A. Yes, that's a two-part question. First, I agree 11 with Mr. Blewitt that the oil and gas emissions alone do 12 not cause an exceedance of the ozone NAAQS. And I 13 already -- that's the first part. 14 The second part is that 1 ppb significant impact 15 level is -- is not -- well, first, it's not appropriate 16 for an ozone SIP control-type situation. It's for PSD 17 permitting. Second, it's for the daily 8-hour ozone 18 concentration, not design values. So, I mean, it's used 19 to screen new sources so you don't have to do a cumulative 20 analysis. It's part of the PSD permit. 21 Q. Okay. So Mr. Blewitt bases much of his testimony 22 and rebuttal testimony on information contained in the New 23 Mexico Ozone Attainment Initiative Photochemical Modeling 24 Study Air Quality Technical Support Document for the 25 AQTSD. Are you aware of that document?	507 1 emission inventories were reviewed by each of the Western 2 states and updated, so they're probably the most -- some 3 of the most vetted and reviewed emissions inventories that 4 have been used in recent years. 5 Q. Thank you. And just for clarification, the WRAP 6 website you're referring to is the acronym W-R-A-P, 7 standing for the Western Regional Air Partnership, 8 correct? 9 A. That's correct. 10 Q. Okay. Do you have any comments on -- on -- 11 sorry -- Mr. Blewitt's statement: The emission 12 inventories used to develop the 2014 base case and 2028 13 future base case were not available for review and were 14 not included in the TSD? 15 A. Well, first, the emission inventories are -- that 16 we use in the modeling are many, many, many -- are very 17 large and, you know, gigabytes and terabytes amount of 18 information. So we can't include that all in the TSD. We 19 do have their summaries and we shipped the -- well, the 20 NMOGA expert asked for the modeling emission inventories 21 and so we shipped the whole modeling files to them. And 22 they ended up being on the Intermountain West Data 23 Warehouse, which is a website that WRAP kind of operates 24 for distribution to the public. So they are available. 25 He just had to ask for them, to get it to them quickly.
506 1 A. Yes, I was the primary author of that document. 2 Q. And Mr. Blewitt states many times that the AQTSD 3 does not contain sufficient information to evaluate the 4 2014 and 2028 emissions inventories. For example, he says 5 it does not contain any documentation on the specifics of 6 the 2028 inventory. Critical information was lacking to 7 completely evaluate the emissions inventories used in the 8 ozone modeling. No specific details were provided on the 9 development of the 2028 base case future-year inventory. 10 Do you agree with these statements? 11 A. No, I addressed these issues in my rebuttal 12 report testimony. And except for the 2028 New Mexico oil 13 and gas emissions, all the other emissions were based on 14 the WRAP 2014 and 2028 on the books, the emissions 15 scenarios that are being used in the Western States 16 Regional Haze rules. And so you go to the WRAP website, 17 on the top right, there's Regional Haze and you click on 18 there and then there's all of these work groups. 19 You can go to the fire and smoke work group, to 20 the fire emissions, you can go to the oil and gas work 21 group to look at the oil and gas emissions. There's two 22 reports there. You know, there's all of these links in 23 there that go to the RTO work group. In there, there's 24 run specification sheets that list what emissions I used 25 for each -- each source sector. So these -- these	508 1 Q. Thank you. And then they were posted on the 2 Intermountain West Database? 3 A. Intermountain West Data Warehouse, yes. 4 Q. Data Warehouse, thank you. 5 Mr. Blewitt states that the ozone modeling should 6 be revised to separate NOx and VOC source culpability for 7 oil and gas sources. Do you agree with that statement? 8 A. I also addressed this comment in my rebuttal 9 testimony, that for most of the time when you're doing SIP 10 control strategies, you look at the combined effects of 11 controls on VOC and NOx. And for some control measures, 12 it doesn't make sense to separate them because you can't. 13 I mentioned the, you know, reducing the operation 14 of hours of oil and gas operations will reduce both VOC 15 and NOx, so it wouldn't make sense to separate them. I 16 mean, it's something that you could certainly do, but, you 17 know, these models take a while to run, as Mr. Blewitt 18 testified, and you can't do everything. 19 Q. And Mr. Blewitt states that projections of the 20 oil and gas emissions in the ozone modeling did not 21 account for decline in production, so it overstates the 22 emissions from oil and gas sources; is that true? 23 A. No. As I mentioned this morning, when the 24 projections project a collection of oil wells in various 25 stages of production -- so you have older -- older wells

509 1 that are -- that have decline in them; you have new ones 2 that are operating at higher, and for that collection of 3 wells, we project that forward based on the change in 4 activity, so -- to the future year, and that future year 5 will also have this collection of wells of various ages 6 and various stages of decline. 7 Q. All right. Thank you, Mr. Morris. 8 MS. KATZ: I have no further questions for 9 Mr. Morris. 10 HEARING OFFICER ORTH: Thank you, Ms. Katz. 11 Ms. Fox, do you have questions of Mr. Morris? 12 MS. FOX: No, Madam Hearing Officer. Thank you. 13 HEARING OFFICER ORTH: Ms. Paranhos? 14 MS. PARANHOS: No questions. 15 HEARING OFFICER ORTH: Professor Pacyniak? 16 PROFESSOR PACYNIK: No question, Madam Hearing 17 Officer. 18 HEARING OFFICER ORTH: Ms. Devore? 19 MS. DEVORE: No questions. Thank you. 20 MADAM HEARING OFFICER: Thank you. 21 Mr. Nykiel? 22 MR. NYKIEL: No questions. Thank you. 23 HEARING OFFICER ORTH: Mr. de Saillan? 24 MR. DE SAILLAN: No questions. Thank you. 25 HEARING OFFICER ORTH: Thank you. Mr. Hiser?	511 1 say, holding the meteor -- meteorology the same, which is 2 the 2014 meteorology in both 2014 and '28, this appears to 3 be the effect of the control strategy on the expected 4 ambient concentrations? 5 A. That's correct, yes. 6 Q. And that when we look instead, to the 2015 to 7 2019 period for the design value concentrations, assuming 8 that you multiplied that as an RRF -- and maybe you did or 9 maybe you didn't -- that would introduce into that forward 10 look, not only the differences, but because the 11 meteorology is different, right -- between 2015 and 2019 12 than what it was in 2014? So the meteorology -- since the 13 model is based on the 2014 meteorology, changing to a 2015 14 to 2019 design value calculation, introduces another area 15 of uncertainty because it's not the same base that the 16 model itself was being run on for the meteorology? 17 A. Yes. I mentioned that there's more uncertainties 18 introduced when you do the sensitivity analysis to that 19 current year design value because of the fact that the 20 design value period of 2015 to 2019 doesn't overlap with 21 the 2014 meteorological year. 22 Q. Okay. Perfect. That's why I wanted to make sure 23 that I was understanding your testimony correctly about 24 what the differences were. And I appreciate you making 25 that clarification for us.
510 1 MR. HISER: Madam Hearing Officer, yes, I'd like 2 to ask just a couple of questions of Mr. Morris. 3 REBUTTAL CROSS-EXAMINATION OF RALPH MORRIS 4 BY MR. HISER: 5 Q. So, Mr. Morris, in your testimony that you just 6 went through, you talked a little bit about the 2015 7 through 2019 design value work that you did. And I'd like 8 to tease that out, mostly so that the Board and all of the 9 parties in the case understand exactly what was done. 10 So, is my understanding correct that what you did 11 was calculate a new DVC for that period, and then you 12 multiplied that by the model results, but the model 13 results were still based upon the 2014 meteorology that 14 was part of the 2014 base case? 15 A. That's correct. 16 Q. So that, in effect, the biggest change and why 17 you said that there was some additional uncertainty, is 18 that when we use the 2014 both for the primary part of the 19 design value, and then we multiply the model by that in 20 the RRF, we're trying to hold everything pretty on square 21 except for the impact of the control strategy? That 22 wasn't very clear. I'm sorry. 23 A. Could you rephrase that? 24 Q. Yes. So when we did the 2014 to 2028 work, what 25 you were trying to do in that particular evaluation, was	512 1 And then just one point of clarification: In 2 your discussion of Mr. McNally's testimony, did you 3 understand Mr. McNally to be saying that the final results 4 of the rule shouldn't include both the NOx and the VOC and 5 evaluation of the reductions, or was he testifying that 6 it's sometimes helpful to run them separately to help 7 choose the design of control measures? 8 A. I'd say the latter. He wasn't saying that you 9 don't do the VOC controls. You just need to evaluate them 10 separately, or you can. 11 Q. Okay. Thank you very much, Mr. Morris. As 12 always, it's a pleasure. 13 A. The pleasure is mine. 14 HEARING OFFICER ORTH: Thank you. 15 Mr. Rose, do you have questions of Mr. Morris? 16 MR. ROSE: No questions, Madam Hearing Officer. 17 HEARING OFFICER ORTH: Mr. Janoe? 18 MR. JANOE: No questions, Madam Hearing Officer. 19 HEARING OFFICER ORTH: Mr. Butzier? 20 MR. BUTZIER: No questions. Thanks. 21 HEARING OFFICER ORTH: Ms. Gutierrez? 22 MS. GUTIERREZ: No questions. 23 HEARING OFFICER ORTH: Mr. Colclasure? 24 MR. COLCLASURE: No questions. 25 HEARING OFFICER ORTH: And Ms. Witherspoon?

513 1 She may have stepped away. 2 I'm going to turn to the Board members in the 3 event they have questions. While I'm doing that, if you 4 are not a panelist and you have a question, please reach 5 out to me through the Chat. 6 REBUTTAL EXAMINATION BY THE BOARD OF RALPH MORRIS 7 HEARING OFFICER ORTH: Madam Chair, do you have a 8 question of Mr. Morris? 9 CHAIRPERSON SUINA: Thank you, Madam Hearing 10 Officer. I do have a question. Good afternoon, 11 Mr. Morris. I just wanted to go revisit a little bit of 12 what Mr. Hiser was talking about, the uncertainties. He 13 asked you a question about the uncertainties and how, you 14 know, for example, the meteor -- the meteorological data 15 and how that would create more uncertainties from one 16 assumption to the other. In -- in how you ran the models 17 or how you developed the models, would the -- how would 18 those uncertainties affect the outcome or the results of 19 the model? 20 I guess what I'm looking at was, would that make 21 them conservative, on the low end of its projections, or 22 just have a bigger width of uncertainty in terms of the 23 accuracy? 24 MR. MORRIS: So you're referring to the design 25 val -- the current year design value sensitivity analysis?	515 1 that. I appreciate it. 2 HEARING OFFICER ORTH: Thank you. Vice-Chair 3 Trujillo-Davis? 4 VICE-CHAIR TRUJILLO-DAVIS: Thank you. I believe 5 Member Suina asked the question I was going to ask. But 6 just to clarify, so, Mr. Morris, are you saying that the 7 uncertainty doesn't imply overestimation or 8 underestimation, it's just uncertainty because there's the 9 other factors that could influence that? 10 MR. MORRIS: Yeah, it's just another level of 11 uncertainty because the design values and emissions and 12 the meteorology are different in the two -- the two years. 13 Yeah, I mentioned the differences in oil and gas going up 14 between 2014 and 2017; whereas, on the mobile, they're 15 going down. So it's just the relative response factors 16 are a little bit out of sync with the design values. It's 17 just, there are lots of uncertainties in modeling. This 18 is just one more. 19 VICE-CHAIR TRUJILLO-DAVIS: Okay. That was my 20 only question. Thank you, Member Suina for asking the big 21 portion of that. 22 HEARING OFFICER ORTH: Thank you. Member Cates, 23 do you have questions of Mr. Morris? 24 BOARD MEMBER CATES: Yeah, just to follow on 25 there, with Member Suina and Trujillo. So we're talking
514 1 CHAIRPERSON SUINA: Exactly. 2 MR. MORRIS: Okay. So the 2015 to 2019 design -- 3 observed design values are based on emission inventories 4 from that period; whereas, the 2012 to 2016, that's based 5 on the 2014 emissions. After the scaling factors, these 6 relative response factors, are based on the ratio of the 7 2028 and 2014 modeling results. Those don't change in 8 that analysis. So there are changes in emissions from -- 9 let's say from 2014 to 2017, the center point of those two 10 five-year periods. 11 And in places where the ozone went up in that 12 period, like in oil and gas basins, then -- then you 13 might -- you might be underestimating the future-year 14 design values; whereas, in places where the ozone -- the 15 emissions went down, like, say, Albuquerque, that's 16 dominated by mobile sources, they've gone down, for that, 17 you're starting at a lower point so you might be 18 overestimating the future-year design values. I think I 19 got that right. 20 Anyway, it's just that the changes in the 21 emissions between 2014 and 2017, is what is making a 22 larger uncertainty because the design values of 2015 to 23 2019 are based on different sets of emissions than the 24 earlier years. 25 CHAIRPERSON SUINA: Okay. Thank you so much for	516 1 about -- so we know there's some uncertainty and we know 2 what it is. Can we put a value on it? Can we say this 3 model could be off by 80 percent or closer to 20 percent? 4 MR. MORRIS: To do a full-blown uncertainty 5 analysis would take a lot of -- you've got to do a bunch 6 of probation runs. And, you know, I mean, we did -- like 7 we did four meteorological sensitivity runs to come to the 8 one that -- the best performing one, that one that matched 9 the observed ozone best. And that's meteorology, that's 10 just one aspect. There's uncertainty in emissions, 11 there's certain boundary conditions and there's 12 uncertainty in the model numerics. So it's hard to -- I 13 can't really say, you know, what the cumulative effects 14 are of all of those uncertainties. 15 I will say that we did do the model performance 16 evaluation with the 2014 base case, and we matched the 17 observed ozone pretty well. You know, it's good or better 18 than most recent ozone modeling studies. That's not so 19 much uncertainty, but accuracy, but it's a -- it kind of 20 gives us confidence in the modeling results. 21 BOARD MEMBER CATES: Yeah. Okay. Got it. Thank 22 you for that expert testimony. 23 HEARING OFFICER ORTH: Thank you. Member Bitzer? 24 BOARD MEMBER BITZER: I have no questions. Thank 25 you.

517 1 HEARING OFFICER ORTH: Thank you. Member Garcia? 2 BOARD MEMBER GARCIA: Yes. Thank you, Madam 3 Hearing Officer. So can you hear me? 4 MR. MORRIS: Yes. 5 BOARD MEMBER GARCIA: So I understand that this 6 model is looking at -- of course we're talking about the 7 impact to Part 50, but I also see that the Department is 8 looking at a larger package, in other words, the Ozone 9 Attainment Initiative is a package including other efforts 10 there, perhaps rulemaking, changes to the Oil Conservation 11 Division rules, et cetera. Those things were probably not 12 taken into account in this model; is that right? 13 MR. MORRIS: I believe that was the rule from 14 March of this year, is that what you're talking about? 15 Yeah, we did this modeling -- the 2028 emissions 16 projections back in 2020, so -- and it was based on the 17 WRAP, on the book scenarios -- 2028 on the book scenarios. 18 We just had rules that were on the books as of probably 19 early 2020, so it did not include anything more recent 20 than that. 21 BOARD MEMBER GARCIA: So not including the OCD 22 rule and, obviously, not future rules of car emissions and 23 things like that, that the Department may propose in the 24 future? 25 MR. MORRIS: Not anything in addition to the, you	519 1 HEARING OFFICER ORTH: All right. Thank you. 2 Member Honker? 3 MEMBER HONKER: No -- no questions. Thank you. 4 HEARING OFFICER ORTH: All right. Thank you. 5 Ms. Katz, will there be any follow-up? 6 MS. KATZ: No, Madam Hearing Officer. Thank you. 7 HEARING OFFICER ORTH: All right. Well, thank 8 you very much, Mr. Morris, for your testimony. 9 MR. MORRIS: Thank you. 10 HEARING OFFICER ORTH: Now are we going to 11 Ms. Hollenberg? 12 MS. KATZ: Yes. Thank you. The Department calls 13 Cindy Hollenberg. 14 HEARING OFFICER ORTH: And I already made her a 15 panelist so hopefully she can join us on the screen. Oh, 16 I see her. And will there be slides? 17 MS. HOLLENBERG: No. 18 HEARING OFFICER ORTH: Okay. Terrific. Thank 19 you. Ms. Hollenberg, I think I can hear you quite 20 clearly. If you would raise your right hand, please. Do 21 you swear or affirm to tell the truth? 22 MS. HOLLENBERG: I do. 23 HEARING OFFICER ORTH: Thank you very much. 24 CINDY HOLLENBERG, 25 having been first duly sworn or affirmed, was examined
518 1 know, what's in the EPA's current mobile source rules, and 2 in this case, mobile 2014 B, which is our mobile emissions 3 model. Definitely the turnover is probably the largest 4 emission reductions between 2014 and 2028. There is about 5 a 70 percent reduction in NOx emissions. So it has that 6 turnover in there, but those are rules that are on the 7 books. And New Mexico is planning on adopting, like 8 California, lead standards. Those were not included in 9 it. 10 BOARD MEMBER GARCIA: Would you feel comfortable 11 in commenting on whether looking at some of the 12 initiatives that the Department is planning in their Ozone 13 Attainment Initiative package -- would you feel 14 comfortable commenting on whether it would also have an 15 impact in reducing ozone as well, without modeling it? 16 MR. MORRIS: I'm asked these kind of questions 17 all of the time. And I'm guessing what the model is going 18 to say, and you could kind of look at the emission -- the 19 magnitude of the emission reductions of each control 20 measure, or combined, and try to get a sense of what the 21 impacts will be, but it's hard to, you know, speculate 22 what it's going to be. And I don't know what other 23 controls they're considering. 24 BOARD MEMBER GARCIA: I understand. Thank you 25 very much, sir. That's all. Thank you.	520 1 and testified as follows: 2 DIRECT EXAMINATION OF CINDY HOLLENBERG 3 BY MS. KATZ: 4 Q. Ms. Hollenberg, could you please spell your name 5 for the court reporter? I'm sorry. 6 A. Hollenberg is H-O-L-L-E-N-B-E-R-G. 7 Q. And Ms. Hollenberg, where are you employed? 8 A. I'm employed by the Air Quality Bureau of the New 9 Mexico Environment Department. 10 Q. And -- 11 HEARING OFFICER ORTH: And Ms. Katz, I'm sorry, 12 we need the exhibits. 13 MS. KATZ: Oh, sorry. I keep forgetting that. 14 Let's see. So Ms. Hollenberg's, her -- she only has 15 rebuttal testimony and her rebuttal testimony is at NMED 16 rebuttal Exhibit 14 is the written testimony. My 17 apologies. 18 Q. (BY MS. KATZ) And Ms. Hollenberg, what is your 19 current job title at the Department? 20 A. I'm the Enforcement Manager. 21 Q. And what are your job duties? 22 A. I manage the enforcement specialist staff. 23 Currently, we have three enforcement specialists; fully 24 staffed, we would have five. I help oversee the 25 development -- (unintelligible) and casework for

521 1 potentials that are submitted by compliance staff. We 2 also work with U.S. Environmental Protection Agency and 3 the Department of Justice on cases for which NMED is a 4 co-complainant. 5 Q. And you were skipping for a moment there. So can 6 you -- where you were saying you oversee the development, 7 can you state that again because I think some words got 8 lost. 9 A. Sure. I help oversee the development of 10 enforcement cases for potential violations that are 11 submitted to us by compliance staff. 12 Q. Thank you. And did I ask how long you have 13 worked for the Department? 14 A. Approximately eight years. 15 Q. Thank you. Can you please describe your 16 educational and professional qualifications? 17 A. I hold a Bachelor of Science in Biology Teaching 18 from Purdue University. I hold a Master of Arts in 19 International Peace Studies from the University of Notre 20 Dame and I have a Master of Public Administration in 21 Environmental science and Policy from Columbia University. 22 My previous work for the Bureau includes being a planning 23 specialist and also the inspections manager. 24 Q. And a copy of your resume has been provided as 25 NMED Exhibit 15, correct?	523 1 MR. HISER: Madam Hearing Officer, before 2 Ms. Katz goes to that, I guess I don't see what exactly 3 this witness is rebutting. NMOGA made no representations 4 one way or the other about compliance percentages or 5 anything. So to the extent the Department is rebutting 6 itself, I'm not sure that's appropriate. Perhaps Ms. Katz 7 can point to what was said. 8 HEARING OFFICER ORTH: All right. Ms. Katz? 9 MS. KATZ: Madam Hearing Officer, Ms. Hollenberg 10 is offering testimony regarding the -- the model -- the 11 emissions assumptions in the model and so it's meant to -- 12 about the further reductions that might obtain from -- 13 from the model based on our enforcement. 14 HEARING OFFICER ORTH: Okay. And whose testimony 15 in particular is it responding to? 16 MS. KATZ: To issues raised by NMOGA and IPANM 17 regarding the reductions that might be achieved by the 18 model. 19 HEARING OFFICER ORTH: Okay. I have heard -- I'm 20 sorry. Mr. Hiser? 21 MR. HISER: There is nothing in the NMOGA 22 testimony that talks about the reductions that would be 23 achieved by this model that relate to the enforcement 24 posture that the Department is or isn't taking. We 25 accepted the model exactly as was provided by NMED and
522 1 A. Yes, that's correct. 2 Q. And have you submitted written rebuttal testimony 3 in this proceeding? 4 A. Yes, I have. 5 Q. And your full written rebuttal testimony appears 6 as NMED Rebuttal Exhibit 14? 7 A. That is correct. 8 Q. And do you have any changes to your written 9 testimony? 10 A. Yes, I do. In addition to some minor 11 typographical error corrections, I have recalculated 12 resource needs for inspection, which changes page 3, line 13 13, and page 5, line 8. In addition, corrections were 14 made on page 4, line 13 and on page 10, line 2. I do wish 15 to submit a complete amended rebuttal testimony with these 16 errors corrected. 17 Q. And I will submit that. I don't think it has 18 been submitted yet, so I will submit that. 19 Do you adopt your amended written testimony here 20 today? 21 A. Yes, I do. 22 Q. All right. So I'm going to walk you through your 23 rebuttal testimony and have you address some issues raised 24 by NMOGA and IPANM regarding assumptions in the ozone 25 modeling.	524 1 didn't make any changes to those assumptions. So I'm not 2 sure what I see that is here to rebut. 3 MS. KATZ: Mr. Hiser, are you -- are you 4 objecting to this testimony? Because I guess I would 5 argue that that should have been raised before this moment 6 if that was the case. 7 MR. HISER: I'm saying that I don't see that it's 8 rebuttal testimony. 9 HEARING OFFICER ORTH: All right. So thank you, 10 Mr. Hiser, for that. I have heard testimony about the 11 modest impact, for example, based on modeling and so 12 perhaps in line with identifying, you know, ways in which 13 reductions could be had, other than exactly this rule, I 14 think it is consistent with that point. 15 But go ahead, Ms. Katz and Ms. Hollenberg. 16 MS. KATZ: Thank you. 17 Q. (BY MS. KATZ) Ms. Hollenberg, can you please 18 summarize the Bureau's capacity and resource constraints 19 with respect to compliance and enforcement? 20 A. Sure. Currently, staffing levels are at 21 approximately 50 -- 50 percent. We have three inspection 22 specialists, three report specialists and three 23 enforcement specialists. We also have three managers and 24 one supervisor, so that's a total of 13 compliance and 25 enforcement personnel.

525 1 Experienced compliance specialists may complete 2 15 to 20 inspections or 78 to 120 report reviews each 3 year. Experienced enforcement specialists are currently 4 managing about 20 cases. Bureau responsible -- the 5 Bureau's responsible for assuring compliance at all 6 regulated facilities within NMED AQB jurisdiction. That's 7 inspections, report reviews, and investigations related to 8 public complaints. 9 Q. And how -- how many regulated facilities exist in 10 the State of New Mexico for which the section attempts to 11 assure compliance? 12 A. We have -- we have 187 major sources, and major 13 sources are the largest of our sources; 66 percent of 14 those are oil and gas-related, and all of them require 15 inspections every two years. We also have 1,648 synthetic 16 minor sources. Synthetic minor sources put on controls to 17 keep them under those major source thresholds. Of those 18 1648 minor -- synthetic minor sources, 57 percent are oil 19 and gas-related. 20 Approximately 600 of those are what we call SM-80 21 and that is that they -- they emit at 80 tons per year or 22 more of a regulated pollutant. They require inspections 23 every five years. Those -- of those 600 synthetic minor 24 80 sources, 75 percent are oil and gas-related. Then we 25 have another 1349 minor sources; 68 percent are oil and	527 1 Environmental Protection Agency for several different 2 years. We conducted joint inspections with EPA in 2019 3 and 2020 for facilities that are not included on our 4 compliance monitoring strategy. The compliance monitoring 5 strategy is the yearly schedule of inspections proposed by 6 NMED and approved by EPA. When we did those inspections 7 we had -- we discovered systemic violations of federal 8 regulations, state rules and permit conditions at 60 9 percent of the companies that we investigated in 2019 and 10 approximately half of the companies that we investigated 11 in 2020. 12 The Bureau continues to collaborate with EPA and 13 the U.S. Department of Justice on cases related to the 14 2019 inspections. NMED also worked with EPA on flyover 15 surveillance for 2019 for the Permian Basin, and in 2020 16 for both the Permian and the San Juan Basins. We had 113 17 infrared videos of equipment leaks or improperly operating 18 flares and unlit flares in 2019. In 2020, that number 19 increased to 369 at 264 different companies. 20 Q. Does the Bureau also initiate inspections in 21 response to public complaints? 22 A. Yes. The Bureau also responds to public 23 complaints. So as an example, we got one set of 24 complaints involving a company that was choosing to flare 25 continuously, in violation of their permit conditions.
526 1 gas-related. Over 4000 smaller sources may have had what 2 we call a notice of intent registration; 91 percent of 3 those are oil and gas-related. 4 The Bureau gets on average, 475 Notice of Intent 5 applications each year. In my written testimony, I do 6 describe the various types of facilities in greater 7 detail. 8 Q. Is there -- is there no way that the Bureau could 9 possibly inspect each of these thousands of the smaller 10 sources each year? 11 A. That is correct. Nor does EPA require that we 12 inspect all synthetic minor sources or any of the minor 13 sources Notice of Intent sources, or those sources where 14 no permit is required. And although the Bureau isn't 15 required to inspect these smaller sources, we do have 16 responses to public complaints that may involve these 17 previously uninspected sources. 18 The information provided in the proposed rule 19 will be an important component for compliance verification 20 for the Bureau because gathering this information 21 ourselves is simply not feasible. 22 Q. What other compliance and enforcement activities 23 for oil and gas facilities does the Bureau conduct or 24 assist with? 25 A. So the Bureau works cooperatively with the U.S.	528 1 That prompted an on-site investigation of five oil and gas 2 facilities. 3 The findings from that investigation included 4 constructing facilities different from their general 5 permit -- general construction permit registrations and 6 also significant excess emissions. We're currently in the 7 process of developing an enforcement case. 8 Another series of complaints prompted another 9 on-site investigation of 15 different oil and gas 10 facilities. We did discover potential violations for two 11 companies there. 12 Q. Does the Bureau ever initiate investigations 13 based on videos published on the internet? 14 A. Yes. The Bureau also periodically receives these 15 notices of infrared videos published on YouTube. We 16 attempt to follow up with an intensive information request 17 to determine whether violations may have occurred. We've 18 received 205 unique submissions since 2016; 82 of those, 19 so far, have been in 2021. All of them are oil and 20 gas-related. 21 The Bureau does not have the resources to follow 22 up on all of these, although we have added some of these 23 facilities to our compliance monitoring strategy in the 24 past. 25 Q. Can you please describe enforcement cases

529 1 involving oil and gas facilities that the Bureau has 2 pursued in recent years? 3 A. Uh-huh. Since 2016, we've settled 64 cases, and 4 51 one of those are related to oil and gas facilities, 5 including three large administrative compliance orders 6 covering nearly 20 facilities over the last few weeks. 7 Additional cases in the final settlement -- are 8 in the final settlement stages for 12 oil and gas 9 facilities. Of approximately 40 active enforcement cases, 10 22 are for oil and gas-related facilities. Several of 11 those involve multiple facilities for a given company. 12 Q. Do many of these cases involve excess emissions? 13 A. Many cases do involve excess emissions. And it's 14 important to note that excess emissions are required to be 15 self-reported to the Bureau. These are exceedances of 16 permitted limits. 17 Ramboll modeling used only permitted limits, so 18 these exceedances have not been modeled. Also, the Notice 19 of Intent and unpermitted facilities are not required to 20 report excess emission. So the modeling does not include 21 any emissions from their upset conditions. 22 In our experience from inspecting Notice of 23 Intent facilities with EPA in 2019 and 2020, and from 24 EPA's flyover data, suggests that actual emissions are far 25 greater than what we see self-reported as excess	531 1 addition, to conducting our on-site inspections. 2 Q. How is the proposed rule that the Board is 3 considering in this proceeding expected to improve 4 compliance efforts, both for the Bureau and for the 5 industry? 6 A. Well, it's pretty clear that the Bureau does not 7 have adequate staff to inspect every facility in New 8 Mexico. So we will continue to rely on self-reporting as 9 part of our compliance efforts in the foreseeable future. 10 So this proposed rule will help us focus our compliance 11 and enforcement efforts where we may see the most benefit. 12 Without the requirements of the proposed rule, the Air 13 Quality Bureau would expect that oil and gas excess 14 emissions will not abate. 15 The requirements, we hope, will help -- will also 16 assist oil and gas-related facilities in identifying 17 problems at their facilities and taking care of them 18 without a regulatory agency's involvement, through such 19 things as the annual compliance certification and 20 third-party audit requirements. 21 Q. And what are the -- your conclusions regarding 22 the expected benefits of this rule with respect to the 23 modeling and the ozone concentrations? 24 A. So the Bureau believes that because Ramboll's 25 modeling did not include excess emissions, nor facilities
530 1 emissions. Since 2017, 99 to 100 percent of excess 2 emissions reported to the Bureau are from oil and 3 gas-related facilities. 4 I'd like to call your attention to Figure 1 on 5 page 9 of my written testimony. What's of interest here 6 is that over 1.3 million excess pounds of nitrogen oxide 7 or NOx, and over 10.5 million excess pounds of volatile 8 organic compounds, or VOCs, have occurred since 2017. In 9 2017 to 2020, NOx excess emissions increased 407 percent 10 and VOC excess emissions increased 1022 percent. To put 11 that in context, the over 4.5 million pounds of excess VOC 12 emissions in 2020 alone, is equivalent to 22 additional 13 Title V for major sources. And none of this was modeled 14 because Ramboll assumes that sources are in compliance 15 with existing permit limits. 16 Q. So what conclusions can you draw from all of this 17 information that you have provided? 18 A. Well, one conclusion is that oil and gas 19 facilities are the majority of the Bureau's permitted and 20 Notice of Intent-registered facilities. Oil and gas 21 facilities also represent the significant challenge to the 22 Bureau regarding reported excess emissions. 23 Reliance on self-reporting is integral to the 24 Bureau's compliance and enforcement strategy. It's not 25 ideal, but it's common for air regulatory agencies, in	532 1 without permits, the emissions reductions and ozone 2 benefits from the proposed rule are very likely 3 underestimated. 4 Q. Thank you, Ms. Hollenberg, that's all I have. 5 HEARING OFFICER ORTH: Thank you, Ms. Katz. 6 We'll turn now to questions. Ms. Fox, do you have 7 questions of Ms. Hollenberg? 8 MS. FOX: No. Thank you, Madam Hearing Officer. 9 HEARING OFFICER ORTH: Ms. Paranhos? 10 MS. PARANHOS: No questions for this witness. 11 Thank you. 12 HEARING OFFICER ORTH: Thank you. Professor 13 Pacyniak? 14 PROFESSOR PACYNIK: No questions, Madam Hearing 15 Officer. 16 HEARING OFFICER ORTH: Thank you. Ms. Devore? 17 MS. DEVORE: I just have one quick question. 18 CROSS-EXAMINATION OF CINDY HOLLENBERG 19 BY MS. DEVORE: 20 Q. So I was just curious if -- how many of the, 21 like, facilities out of compliance are -- if you have any 22 idea, how close those are to Carlsbad National Park? Do 23 you recall that? 24 A. Probably. (Unintelligible). Is that your 25 question?

533 1 HEARING OFFICER ORTH: Hold on. Hold on, 2 Ms. Hollenberg. You were breaking up there. Would you 3 repeat what you said from the beginning? 4 A. I guess I'd like clarification on the question. 5 Q. (BY MS. DEVORE) I'm sorry. I didn't catch that. 6 A. Can you clarify your question? 7 Q. If -- do you have any concept of how close these 8 facilities are to Carlsbad Caverns National Park, the one 9 that -- the ones that you were talking about that were out 10 of compliance? I'm trying to remember which county that 11 is. 12 A. I actually can't really answer that question. 13 You know, they're kind of spread out around Carlsbad, the 14 city, and throughout the Lea and Eddy Counties, Chaves 15 County for the Permian Basin, but I don't really have 16 information about how many facilities are close to the 17 actual park. 18 Q. I mean, do you have a general concept of how many 19 are in the Permian Basin? Would that be a -- that's a 20 little bit better of a question. To get context for like 21 where in the state are these compliance issues, you know. 22 A. Are you speaking of -- I mean, we have compliance 23 issues pretty much everywhere. But are you speaking of 24 the flyover project or the 2019 and 2020 joint 25 inspections? I'm trying to get where you're --	535 1 that information wouldn't accrue to the Department? 2 A. We would have a much harder time holding -- 3 holding violators accountable for the violations that do 4 occur. You know, with the resources that we have, we 5 would not be able to tell always when excess emissions 6 occur. 7 MR. NYKIEL: Thank you very much. No further 8 questions. 9 HEARING OFFICER ORTH: Thank you. 10 Mr. de Saillan? 11 MR. DE SAILLAN: I have no questions. Thank you. 12 But I appreciate this testimony. 13 HEARING OFFICER ORTH: Thank you. Mr. Hiser? 14 MR. HISER: I do have just a couple of real quick 15 questions. 16 CROSS-EXAMINATION OF CINDY HOLLENBERG 17 BY MR. HISER: 18 Q. Do you know whether or not facilities operate at 19 100 percent of their allowable capacity at all times, or 20 do they operate at less than their allowable capacity much 21 of the time? 22 A. I don't have that information, I'm sorry. 23 Q. Okay. You testified that these emissions values 24 are not showing up. Is it your testimony that these 25 emissions do not show up in the monitored values in the
534 1 Q. Yeah. Either really. I mean, if you just -- 2 just context for, yeah, it helps to know if the violations 3 are all over the state. Like if you're seeing consistent 4 violations all over the state, then I think that answers 5 my question. 6 A. We do see violations from all over the state. 7 There's -- there's no doubt about that. The 2019 8 inspections and flyovers were all focused on the Permian 9 Basin, but then when we did the 2020 flyovers and our 2020 10 inspections of facilities that don't have large permits, 11 major source permits or SM-80 permits, we found also some 12 compliance issues in the San Juan Basin. 13 Q. Thank you. 14 HEARING OFFICER ORTH: All right. Let's see 15 here. Mr. Nykiel? 16 MR. NYKIEL: Yes, Madam Hearing Officer, just 17 briefly. 18 CROSS-EXAMINATION OF CINDY HOLLENBERG 19 BY MR. NYKIEL: 20 Q. Ms. Hollenberg, would you say that the 21 information that was self-reported that you described in 22 your rebuttal testimony is helpful information for the 23 Department to have? 24 A. It's very important for us to have. 25 Q. And absent that self-reporting, the benefit of	536 1 Department's monitoring network? 2 A. I believe that they contribute to -- certainly 3 the physical emissions contribute to the monitored values, 4 yes. What does not show up is what was put into the 5 model, as far as what -- what counts as on the books. 6 Q. And did you hear the testimony from Mr. Morris, 7 your own witness, that the RRF is used to address some of 8 these issues? 9 A. Yes, I heard his testimony this morning. 10 Q. And so in effect, would not some of this issue 11 already be addressed in the model then? 12 A. I can't answer that, I'm not a modeler. 13 Q. Okay. Thank you. 14 HEARING OFFICER ORTH: Thank you. Mr. Rose? 15 MR. ROSE: I'm getting there. 16 HEARING OFFICER ORTH: I didn't hear you. 17 MR. ROSE: Oh, I said I'm getting there, so... 18 HEARING OFFICER ORTH: Okay. 19 CROSS-EXAMINATION OF CINDY HOLLENBERG 20 BY MR. ROSE: 21 Q. Let's see. I guess I need to click here to get 22 back on. There we go. Ms. Hollenberg, in terms of the 23 emissions inventory that Ramboll modeled, it's my 24 understanding that that was provided by the Department. 25 Do you know whether the Department considered including

537 1 any of the excess emissions reported in the modeling 2 analysis? 3 A. I have no basis to answer that question. I was 4 not involved in that. 5 Q. So -- so that Ramboll could have modeled 6 emissions, including excess emissions if the Department 7 had requested, correct? 8 MS. KATZ: Objection, outside of the scope of 9 Ms. Hollenberg's testimony. 10 MR. ROSE: She is testifying in terms of whether 11 or not the modeling analysis, perhaps underestimates 12 concentrations due to oil and gas facilities. What I'm 13 suggesting is that the choice of the model and the model 14 inputs was the Department's. So she has a criticism -- 15 MS. KATZ: She just testified that she didn't 16 have any involvement in that choice. 17 HEARING OFFICER ORTH: Right. So there is no 18 foundation -- 19 Q. (BY MR. ROSE) But it's still the Department's 20 choice, is it not? 21 HEARING OFFICER ORTH: I'm sorry, Mr. Rose. I 22 think you lack foundation for -- for that question. 23 MR. ROSE: Madam Hearing Officer, I believe that 24 the foundation is that she -- she's testifying that the 25 model potentially underestimates an issue, based on that	539 1 MS. SHPALL: This is Casey Shpall, no questions. 2 MR. COLCLASURE: No questions. 3 MS. SHPALL: I wasn't sure if Chris was still 4 there. 5 HEARING OFFICER ORTH: Okay. Thank you, 6 Ms. Shpall. And let's see. Ms. Witherspoon? May have 7 stepped away. 8 All right. I'm going to turn now to potential 9 questions from the Board. While I'm doing that, in the 10 event that there is an attendee who has a question, please 11 put it in the Chat. And if you ever have any struggles 12 with the Chat, please text (505) 660-4305. 13 EXAMINATION BY THE BOARD OF CINDY HOLLENBERG 14 HEARING OFFICER ORTH: Madam Chair, do you have 15 any questions of Ms. Hollenberg? 16 CHAIRPERSON SUINA: Yes. Thank you, Madam 17 Hearing Officer. So I guess -- I guess as I read through 18 your -- the written testimony as well as in hearing your 19 verbal testimony today, I just want to be clear again. I 20 know you've hit this point, but in my mind, so the Ramboll 21 model assumes that the facilities are in compliance, from 22 your understanding; is that correct? 23 MS. HOLLENBERG: That's -- that's correct. 24 CHAIRPERSON SUINA: Okay. And as you shared with 25 us in your written testimony in Figure 1, it looks like
538 1 fact that Ramboll modeled only permitted emissions. And 2 what I'm saying is that the -- the criticism of the model, 3 in essence is based on the Department's own choice to 4 have -- 5 MS. KATZ: Objection, that's already been stated. 6 HEARING OFFICER ORTH: Ms. Katz, I'm sorry. It's 7 awkward on this platform because there's kind of a 8 heartbeat of a delay every time. 9 Mr. Rose, I was going to invite you to finish 10 your sentence, but I definitely understand your point. 11 And because Ms. Hollenberg said that she was not involved 12 in the decision as to what inputs were going into the 13 model, I think there's really no more testimony on that 14 point that you can get from her. Do you have other 15 questions? 16 MR. ROSE: No, that was my question. 17 HEARING OFFICER ORTH: All right. Thank you. 18 Let's see. Mr. Janoe? 19 MR. JANOE: No questions. 20 HEARING OFFICER ORTH: All right. Mr. Butzier? 21 MR. BUTZIER: No questions, Madam Chair. 22 HEARING OFFICER ORTH: All right. Ms. Gutierrez? 23 MS. GUTIERREZ: No questions. Thank you. 24 HEARING OFFICER ORTH: Thank you. 25 Mr. Colclasure?	540 1 there's a number of pounds of excess emissions by 2 pollutants due to oil and gas facilities -- 3 MS. HOLLENBERG: Uh-huh. 4 CHAIRPERSON SUINA: -- that were reported to the 5 Bureau; is that correct? 6 MS. HOLLENBERG: That's -- that's correct. 7 CHAIRPERSON SUINA: Can you remind me how they 8 were reported? I'm trying to look here. 9 MS. HOLLENBERG: We have -- we have a reporting 10 system. It's -- we call it the AQBCR. It's Air Quality 11 Bureau Compliance Reporting, and there is a system that is 12 well-known by -- by the facilities, for them to report 13 their excess emissions, among other things. 14 CHAIRPERSON SUINA: Okay. So this is all 15 self-reported? 16 MS. HOLLENBERG: That's correct. 17 CHAIRPERSON SUINA: Okay. And then I know you 18 testified to additional complaints? 19 MS. HOLLENBERG: Uh-huh. 20 CHAIRPERSON SUINA: An how are -- is there any 21 quantification of some of those maybe excess emissions 22 from those complaints that might not be self-reported? 23 MS. HOLLENBERG: Yes. It depends on what we find 24 when we go to investigate a facility. If we go to 25 investigate a facility, we may ask for more records, we

541 1 may -- you know, we often, of course, look at the 2 equipment that's on site. We talk about the process for, 3 you know, how they -- the facility operates. But a lot of 4 information comes in after that initial investigation, so 5 in asking for records, we ask for something very specific. 6 And then we have had occasion to say, okay, 7 you've had this happening and you've just admitted to this 8 happening, why are we not seeing any excess emissions 9 reports? And so, then, they may go and submit those 10 excess emission reports, and there will be additional 11 potential violations for them not submitting those excess 12 emissions reports, without us telling them that they 13 needed to. But the main point about excess emissions is 14 that we do rely on that self-reporting. 15 CHAIRPERSON SUINA: Thank you for that response. 16 So I think one of the other legal counsel asked this 17 similar question, but I just want to make sure I'm clear. 18 So, then, right now, I know you probably don't have the 19 details, but where we have excess self-reporting data or 20 information, has there ever been an analysis done by the 21 Bureau as to if those excess emissions can be tied to 22 monitoring stations that are ongoing, that are continuing 23 to be monitored? 24 And maybe -- maybe another way to say it is, are 25 -- has there been a look at if these excess emissions are	543 1 the enforcement task that you're responsible for -- how do 2 you see that the new proposed rules will help, I guess, 3 specifically, one, in cost and then also resources for 4 your staff? 5 MS. HOLLENBERG: Well, one of the things I'd like 6 to say is that in compliance and enforcement, we really, 7 really value compliance. And -- and part of that is to 8 look at equity, because another value that we have is 9 equity. And so you always have inequities when you have 10 some facilities or companies that are complying, they are 11 doing everything that they are supposed to be doing, and 12 you have some other facilities that are not complying and 13 they're simply not investing in protecting air quality. 14 So the focus of our compliance and enforcement 15 program is really to kind of level the playing field so 16 that -- so that we can help make sure that -- that there 17 isn't that kind of an inequity. So what this will help us 18 do is gather the information that would be impossible for 19 us to gather on our own. And the way that that will work, 20 of course, remains to be seen, but without that 21 information, just like if there were no excess emissions 22 reporting required, we would have nothing to go on. 23 This at least gives us something to go on, so 24 that when we do our required inspections, when we do our 25 required reports reviews, we have more information that
542 1 nearby monitoring stations that might -- where that data 2 might also be captured by the impacts of -- these excess 3 emissions might be captured by those monitoring stations? 4 MS. HOLLENBERG: I think that the monitoring 5 stations capture all emissions, whether they are excess 6 emissions or allowable emissions. We have excess 7 emissions pretty much everywhere in the state. As I said, 8 99 to 100 percent of them come from oil and gas, so we're 9 looking specifically at the San Juan Basin and at the 10 Permian Basin. 11 And so, it's not necessarily about a facility 12 that has excess emissions being near to a monitor. It's 13 contributing to a large mix of pollutants in the air that 14 eventually does get captured by -- by monitors somewhere, 15 even if it's not captured within this state. It may be 16 contributing to Texas, it may be in -- the San Juan Basin 17 may be contributing to Colorado. 18 You know, it's -- pollutants, of course, don't -- 19 don't respect state borders. They also don't -- they also 20 don't choose which direction they're going to blow. A lot 21 of that, of course depends on meteorology. 22 CHAIRPERSON SUINA: Thank you for that, 23 Ms. Hollenberg. I do have another question. So to the 24 self-reporting versus what is being proposed now in the 25 proposed rules, would the -- how do you see, in terms of	544 1 helps point us in the direction of where we need to really 2 focus our efforts so that we can get to that level -- 3 level playing field as much as possible. 4 CHAIRPERSON SUINA: Thank you for that. I think 5 that's all I have for right now. Thank you, 6 Ms. Hollenberg and thank you Madam Chair -- I mean Madam 7 Hearing Officer. 8 HEARING OFFICER ORTH: Thank you, Madam Chair. 9 Vice-Chair Trujillo-Davis, do you have any questions? 10 VICE-CHAIR TRUJILLO-DAVIS: Yes, I do. Thank 11 you, Madam Hearing Officer. I just want to kind of 12 continue where Member Suina left off there. So my 13 question is -- I just want to make sure that I'm clear on 14 this. But the cornerstone of NMED's enforcement right now 15 is self-reporting and public reporting. And the hope is, 16 is that they will be able to take their -- their 17 enforcement group that is an employee of NMED and try to 18 kind of catch the rest of the operators that are maybe 19 not -- not self-reporting or not kind of following those 20 guidelines. Is that -- am I correct in that -- in 21 understanding it that way? 22 MS. HOLLENBERG: I -- I would -- I would be 23 cautious about saying that the self-reporting is the 24 cornerstone of our compliance and enforcement effort. The 25 cornerstone, of course, is our inspections and our

545 1 required reports reviews. Given the resource constraints 2 that we have, the self-reporting I would say is integral. 3 It is not necessarily the cornerstone. So I just want to 4 say that at the beginning. 5 So, really, what this would offer is an 6 opportunity to gather more information than we could 7 possibly gather on our own. So I'm not sure what more 8 information you would like about that. You know, I think 9 that if we look at annual compliance certification 10 requirements, that's information that we can use and look, 11 and yes, it is again some self-reporting, and 12 self-reporting isn't ideal, but it's a whole lot better 13 than nothing. 14 The -- the other goal there, though, is to have 15 them look at their facilities more closely and perhaps 16 catch some -- some compliance issues before they reach 17 that level. So, you know, if you're going out and 18 inspecting your own facilities, then -- then maybe you can 19 catch something much earlier and be able to fix it before 20 it becomes something like an excess emission. 21 VICE-CHAIR TRUJILLO-DAVIS: Thank you, 22 Ms. Hollenberg. I apologize, I meant to start that 23 question off with telling you that I realize you have a 24 mountain of a task with having to do inspections across 25 the state, and that I'm sure it's probably a thankless	547 1 somebody is, for example, flaring for months on end, and 2 they are only supposed to be using that flare for 3 emergency conditions, then they are not operating 4 according to the conditions of their permit. So that's 5 just an example. So, really, it's important to understand 6 that the excess emissions are over and above what's 7 allowed in their permits. 8 VICE-CHAIR TRUJILLO-DAVIS: Okay. So just to 9 clarify; excess emissions are over that allowable limit? 10 MS. HOLLENBERG: Uh-huh, that's correct. 11 VICE-CHAIR TRUJILLO-DAVIS: Okay. And does that 12 change from facility to facility? So would a production 13 site have different permitting rules for excess emissions, 14 as opposed to a midstream site, like a compressor station? 15 MS. HOLLENBERG: I'm not certain I know what you 16 mean by -- by permitting requirements for excess 17 emissions, because we don't permit for excess emissions. 18 VICE-CHAIR TRUJILLO-DAVIS: I'm just asking if 19 the permitting construction for excess emissions is the 20 same across every facility? We've -- we've seen a lot of 21 testimony so far and we've had, I think, within the 22 opening statements, people from different portions of the 23 industry give testimony for how they feel the rule impacts 24 them. So I'm asking if the permitting is the same across 25 the board for everybody, or if it's dependent on your
546 1 task on most days. But I just wanted to make sure I 2 understood what -- at least the path forward for NMED as 3 far as inspections and enforcement goes, because one of my 4 concerns -- and it's not just with your particular group, 5 I think we see it consistently throughout the state when 6 it comes to enforcement. But, you know, that a clear plan 7 forward, it seems that we would -- somebody told me once 8 recently, a dream without a plan is just a wish. And kind 9 of in that same context, like, okay, we're going to work 10 it out as we move forward, but we don't -- do we have a 11 plan to make that happen. So -- and I understand it's 12 probably a bigger question than you want to answer, so I'm 13 just laying out my concern to NMED over that particular 14 point. 15 And then my other question here is when somebody 16 submits a permit, do they build excess emissions into 17 their PTE or potential to emit? 18 MS. HOLLENBERG: There's -- there's a potential 19 to emit and there is an allowable limit, and one thing 20 that -- that -- and I'm not a permitting specialist, but I 21 do know that the permitting staff work with the facilities 22 to put conditions in permits that will keep -- that will 23 keep facilities at their allowable limits. 24 Anything that is excess has gone beyond those 25 allowable limits, so it just depends on what it is. If	548 1 place in that line, from upstream to midstream to 2 downstream? 3 MS. HOLLENBERG: I again am not a permitting 4 expert, but my experience with permits is that each one, 5 within certain confines, are tailored to the facility. 6 Even within the general construction permits, the 7 conditions are the same, but it all depends on what you 8 have at your facility. And so conditions for -- for 9 example, if you have a condition for a heater-treater, if 10 your facility doesn't have a heater-treater, of course 11 you're not going to have conditions for heater-treaters, 12 or if you have a general construction permit, they -- they 13 are not going to be subject to that particular condition 14 because it's simply not applicable. I'm not sure I'm 15 satisfying your -- your question here, but... 16 MS. KATZ: Member Trujillo-Davis, we could see if 17 we could find somebody from the permitting section that 18 might be able to answer those questions better for you 19 since Ms. Hollenberg is with the enforcement section. 20 VICE-CHAIR TRUJILLO-DAVIS: Thank you, Ms. Katz, 21 I appreciate that. And really what I was trying to 22 understand was the statement that Ms. Hollenberg made 23 about the impact to -- let me get this right here -- the 24 estimations to the modeling, whether they were 25 underestimated because excess emissions were not accounted

549 1 for. 2 And so I was trying to understand that process a 3 little better, because, to me, if I was going to fill out 4 a permit, I would want to give myself some room. And also 5 just in my experience, I have seen different reporting for 6 compressor stations and midstream operations, versus 7 production facilities. And then, I believe -- and I 8 apologize for not remembering who it was, but I believe it 9 was Kinder Morgan that gave us a short, little talk about 10 where they fell in this rule. So I was trying to pull all 11 of that together to understand the -- the impacts to 12 whether this is overestimating or underestimating, and 13 if -- and how Ramboll used those numbers. 14 MS. KATZ: So I think it might be better to ask 15 somebody from our permitting section about how the 16 potential to emit is calculated for different sources, and 17 what those thresholds then are that are included in those 18 permits, and whether they include -- whether they include 19 excess emissions. 20 I believe Ms. Hollenberg said that they -- that 21 that's -- what's being reported as excess emissions is 22 beyond that. 23 MS. HOLLENBERG: Right. 24 MS. KATZ: But we could see if there might be 25 somebody who could speak more directly to that.	551 1 this rule will be about, you know, inspections that they 2 have done at their facilities and that type of a thing. 3 And so, I think they go hand in hand. I'm not sure it 4 speaks necessarily to the integrity of the excess 5 emissions reporting. We -- we have to trust as much as 6 possible that -- that what is being reported is correct. 7 We have -- we have nothing else to base anything 8 on. 9 BOARD MEMBER CATES: Right. Okay. Got it. 10 Thank you. That's all I really had. Your testimony was 11 fascinating. Thank you. 12 HEARING OFFICER ORTH: Thank you. Member Bitzer? 13 BOARD MEMBER BITZER: Yeah, a quick maybe simple 14 question. Earlier today during public testimony, we heard 15 from a woman who went out and bought her own surveillance 16 equipment and got trained and certified to the same level 17 that the professionals have, to go out and look for leaks 18 or unbridled venting and so forth. And I'm wondering if 19 that kind of data that somebody like that would produce 20 helps you at all in -- in doing your job. Is there 21 citizen data -- I know they can "drop dime, writ large," 22 and say there's a problem here. But does the data that 23 somebody like that collects get you further down the pike 24 in terms of doing your job? That's all I have. 25 MS. HOLLENBERG: In -- in some respects, yes.
550 1 VICE-CHAIR TRUJILLO-DAVIS: Well, thank you very 2 much. And thank you for indulging my questions. 3 HEARING OFFICER ORTH: Thank you. Let's see. 4 Member Cates, do you have questions? 5 BOARD MEMBER CATES: Yeah. Mine is more general. 6 So to be clear, the state currently relies to some 7 significant degree on self-reporting; is that -- is that 8 correct? 9 MS. HOLLENBERG: That is correct for -- for 10 excess emissions specifically. 11 BOARD MEMBER CATES: Right. And you didn't say 12 this in your testimony, but I assume over time that 13 there's -- there are good actors and that there are bad 14 actors. There -- there exists a certain significant 15 amount of mistrust with this current system, there are 16 questions of credibility and integrity in the 17 self-reporting in many instances. 18 And then, so to my question, which is an easy one 19 I guess -- I hope, is that the rule that we're considering 20 here would -- would be a step in a direction toward 21 creating more integrity throughout the self-reporting 22 systems; is that fair to say? 23 MS. HOLLENBERG: I think -- I think that we're 24 looking at in a way two separate things, because we won't 25 be looking at simply excess emissions. The reporting from	552 1 Sometimes we get videos of facilities that do not have a 2 permit, and so there -- there are no permit violations 3 that we can look to and -- and so we may not have a case. 4 There are some facilities that are not subject to federal 5 regulations and so, again, you know, we only have the 6 authority to enforce on violations for someone that has 7 actually violated a permit condition, a state rule, or a 8 federal rule. 9 And absent that, we can't really do anything. 10 And so, we have to sort out, and that's why we -- we 11 started doing a fairly extensive information request of 12 those facilities when we would get those reports. It's 13 very similar to what we do with the EPA flyover data, 14 because that helps us gather the information and 15 determine, okay, do they have a permit? If they don't 16 have a permit, should they have a permit? Are they 17 subject to federal rules that we need to take a closer 18 look at and get even more information to determine whether 19 an actual violation has occurred? 20 So, again, you know, sometimes it's helpful and 21 sometimes -- sometimes it just doesn't get us anywhere. 22 That's all I'll say about that. 23 HEARING OFFICER ORTH: Let's see. Member Garcia? 24 BOARD MEMBER GARCIA: Thank you. I do have a 25 question. Can you hear me?

553 1 HEARING OFFICER ORTH: Now we can. 2 BOARD MEMBER GARCIA: Okay. So I just have a 3 quick question. Thank you for your testimony, 4 Ms. Hollenberg. You mentioned that the Department knows 5 that there's probably more emissions than are 6 self-reported -- exceedances that are self-reported. With 7 all the years of experience the Department has with excess 8 emission reports and violations, et cetera, does the 9 Department make an estimate each year of possibly how much 10 exceedances are not reported? In other words, are you -- 11 with self-reporting, are you only capturing perhaps 50 12 percent of the actual exceedances, 25 percent of the 13 actual exceedances? Does the Department make a 14 guesstimate like that? 15 MS. HOLLENBERG: I have not been in any 16 discussions of that sort, so I can't answer that. 17 BOARD MEMBER GARCIA: Okay. Thank you. 18 HEARING OFFICER ORTH: Thank you. Member Honker? 19 MEMBER HONKER: Yes, I've got a few questions, 20 Ms. Hollenberg. I'd like to go back to Figure 1 on page 21 9. And my first question is, what are the percentages 22 under the -- under the numbers? 23 MS. HOLLENBERG: The percentages are of the total 24 excess emissions reported during that year, how many of 25 them are from oil and gas facilities.	555 1 MS. HOLLENBERG: What I believe I said or -- or 2 hope to communicate is that -- that in other activities we 3 found other violations that could have resulted in 4 unreported excess emissions, but, you know, really, what 5 we were looking at is what can we verify that has actually 6 been violated. 7 We may have been led to ask for more records. We 8 may have -- one of my -- one of our big investigations 9 certainly did get to some excess emissions that until we 10 said something to them, they had not even thought about 11 reporting excess emissions. So, you know, really, our 12 investigations take us on a path of trying to find, have 13 there been violations, and if so, what are those 14 violations. And then we take a look at, you know, what is 15 the impact on that when we move toward enforcement, if we 16 move toward enforcement. 17 BOARD MEMBER HONKER: Okay. So -- so there's a 18 possibility there's additional excess emissions from 19 permitted facilities that aren't showing up in the tables? 20 MS. HOLLENBERG: We think that's possible. 21 Again, we can only enforce on something that we have 22 verifiable evidence for. 23 BOARD MEMBER HONKER: Okay. Understood. Then 24 the non -- the permitted -- the facilities that are below 25 permitting thresholds, I believe you said there were
554 1 BOARD MEMBER HONKER: Okay. So are the numbers 2 the pounds from the oil and gas facilities, or is that the 3 total? 4 MS. HOLLENBERG: That's -- that's the pounds only 5 from the oil and gas facilities. 6 BOARD MEMBER HONKER: Okay. Okay. The next 7 thing -- well, one thing I really noticed is that in 2020, 8 the numbers are significantly higher than they were for 9 the previous years? 10 MS. HOLLENBERG: Uh-huh. 11 BOARD MEMBER HONKER: And since we heard a lot 12 about oil and gas activities decreasing in 2020, it's 13 surprising that -- to see those numbers. Do you have any 14 insight as to why those numbers were so much higher in 15 2020? 16 MS. HOLLENBERG: I really wish I did. I do not, 17 actually, because I ask myself the same question. 18 BOARD MEMBER HONKER: Okay. And then, so -- so 19 the numbers in Figure 1 were self-reported by permitted 20 facilities, right? 21 MS. HOLLENBERG: Correct. 22 BOARD MEMBER HONKER: And I believe in your 23 testimony, you said your staff had become aware of other 24 excess emissions from permitted facilities that have not 25 been reported?	556 1 probably excess emissions from those facilities who are 2 not required to report them, but there may be cases where 3 there's excess emissions above the levels that -- the 4 thresholds that would require a permit; is that correct? 5 MS. HOLLENBERG: That's quite possible. And that 6 comes from our experience, especially in our joint 7 inspections of 2019, for which EPA is currently working on 8 a few cases, where we are co-complainants. We found -- we 9 found some systemic issues at their facilities. So we -- 10 we believe that we didn't just find the few companies 11 that -- that have some issues there, that probably some 12 others exist in other places. 13 But, again, you know, we have to find them. And 14 so, what we believe is that many more facilities probably 15 exist that have some type of violations, whether it's 16 excess emissions, whether it's having equipment on site 17 that they did not report to us. You know, lots of 18 different possibilities. 19 BOARD MEMBER HONKER: Okay. So going back to, I 20 gues Member Garcia's question, you already know the total 21 number of pounds of each of these pollutants due to 22 violations or excess emissions, you do have this table, 23 but the real number is probably bigger than that, and you 24 can't even guesstimate how much bigger that might be? 25 MS. HOLLENBERG: We think -- we think that's very

557 1 likely. And, yes, we -- we would not begin to try to 2 quantify that. 3 BOARD MEMBER HONKER: Okay. All right. Thank 4 you. No further questions. 5 HEARING OFFICER ORTH: Thank you, Member Honker. 6 Madam Chair, did you have some additional 7 questions? 8 CHAIRPERSON SUINA: Yes, Madam Hearing Officer. 9 Thank you so much. I appreciate the opportunity to ask a 10 few more questions. Thank you again, Ms. Hollenberg. 11 You had mentioned that your compliance group at 12 the Bureau is, I think, at 50 percent; is that what you 13 said? 14 MS. HOLLENBERG: Approximately. 15 CHAIRPERSON SUINA: Approximately, in terms of 16 staffing. And then, so I'm just trying to get my head 17 around, so you're at 50 percent. Is that a -- is that a 18 state that has happened just in the last year, or has that 19 been year over year, like since 2017, going back to 2017? 20 Has it -- has it been consistently under -- underresourced 21 in terms of staff? 22 MS. HOLLENBERG: We often have openings. You 23 know, it's -- it's kind of a rotating basis. You know, 24 staff get promoted, staff move on to different careers. 25 Staff move back East. You know, we have a lot of	559 1 response as well. So would the excess emissions that are, 2 self-reported, is there a process that the Bureau has to 3 follow up on these excess emissions, in terms of 4 confirming the value of the excess emissions? 5 MS. HOLLENBERG: I'm not sure what you mean by 6 the value of the excess emissions. 7 CHAIRPERSON SUINA: Or I guess, looking at the 8 data itself, or is it just -- I know there's the database, 9 the AQBCR, but I guess my follow-on question to that is, 10 is there a follow-up by the Bureau? Is it an anomaly? Is 11 it -- is it -- is the detection instrument okay? All of 12 that data and measuring qualitative process, is that -- is 13 that done by the Bureau or is it just merely looking at 14 the excess emission data? 15 MS. HOLLENBERG: We look at the excess emissions 16 data as reported to us by the facilities. We have -- 17 there's information in those excess emission reports 18 that's required, so they have to tell us where the 19 emission point is. They have to tell us what the cause of 20 the excess emission was. They have to tell us what was 21 done to remedy the situation, because in all of the cases, 22 there's some type of upset condition. There, something is 23 going on that is putting them over their permit limits, 24 and so they have to tell us what they've done to remedy it 25 and also what caused it.
558 1 different reasons that we have vacancies on -- on a 2 rotating basis. I would say that -- that we do -- we have 3 had a significant number of vacancies since at least 2019. 4 In 2019, at that point I was inspections manager and we 5 were fully staffed at seven inspectors, and that didn't 6 last very long. So, yes, there are resource constraints 7 on an ongoing basis. 8 CHAIRPERSON SUINA: Thank you for that, 9 Ms. Hollenberg. And -- and so with that information, so 10 in the -- and because of the constraints on the staff 11 levels, you had mentioned -- I think Vice-Chair 12 Trujillo-Davis mentioned this as well. So, therefore, 13 because of the constraints, the Department does rely on 14 the self-reporting mechanism to at least capture some of 15 the data like you have in Figure 1; is that correct? 16 MS. HOLLENBERG: That is correct. And we would 17 rely on that type of self-reporting whether we were fully 18 staffed or not, because that is simply information that -- 19 that we might not get to until, you know, our inspection 20 is due, which as I said, is every two years for major 21 facilities, and for the synthetic minor, 80 percent would 22 be every five years. So it's an important part -- it's an 23 important part of our compliance efforts to -- to have 24 that information available to us. 25 CHAIRPERSON SUINA: And thank you for that	560 1 CHAIRPERSON SUINA: Thank you for that. 2 So in that process, do you see repeat excess 3 emissions entries into the database or report -- reports 4 of repeat excess emissions from a singular facility or 5 source? 6 MS. HOLLENBERG: Yes. 7 CHAIRPERSON SUINA: And then, is there a 8 mechanism, then, to -- for your Bureau to follow up on 9 that? Is that part of those cases, that you're following 10 up on? 11 MS. HOLLENBERG: We do. Sure. So we follow up 12 with inspections, with reports reviews. You know, our 13 compliance staff does look at those excess emissions and 14 our penalties are based on the amount of excess emissions 15 that we see. So, you know, they will notify the facility 16 that there is a potential violation and then they refer 17 that to the enforcement unit. And the enforcement unit is 18 the one that follows up and develops the legal case. 19 CHAIRPERSON SUINA: Great. Thank you. So, 20 again, back to the rule, so will the proposed rule help 21 your staff's task level with the additional reporting 22 requirements being proposed? 23 MS. HOLLENBERG: I -- I think that it will give 24 our compliance staff a little bit more to do when they are 25 doing the inspections and the reports reviews. That said,

561 1 it gives them additional information that we didn't have 2 before. And that, I think, is the important part of that. 3 You know, if there's one more step in an inspection, 4 there's one more step in an inspection. And -- and this 5 will give them more information to -- to make sure that -- 6 that facilities are complying with the requirements of 7 their permits. 8 CHAIRPERSON SUINA: And thank you for that, 9 Ms. Hollenberg. I think I noted a phrase you said in 10 that, the Bureau can only enforce something on what you 11 have information of or what you have evidence of? 12 MS. HOLLENBERG: Uh-huh. 13 CHAIRPERSON SUINA: And so that's why I asked 14 that question. And, again -- or with this new proposed 15 rule, do you also perceive or believe based upon the 16 resource constraints you already have, that you will need 17 additional resources in order to address the proposal -- 18 the proposed, you know, tasks that will come about with 19 the passing or with the -- excuse me -- with the potential 20 amendment to the rules? 21 MS. HOLLENBERG: You know, this is -- this is -- 22 you're asking for my perception. And my perception is 23 that -- that we could do a better job if we had one more 24 inspector; we could do an even better job if we had two 25 more inspectors; we could do an even better job if we had	563 1 the facilities that absolutely do require inspections, say 2 every two years or every five years, how many of those 3 facilities are out of compliance on the NMED side, in 4 saying that NMED hasn't had an opportunity, due to 5 staffing issues, to inspect those facilities, and now 6 they're over that two-year mark or that five-year mark? 7 MS. HOLLENBERG: Can you restate that question? 8 VICE-CHAIR TRUJILLO-DAVIS: How many facilities 9 that require inspections from the NMED on the two-year 10 mark or five-year mark have not been inspected by NMED 11 because they have -- because you've had staffing issues, 12 being short on staff? 13 MS. HOLLENBERG: Over the last couple of years, I 14 would say that it is close to 50 percent. 15 VICE-CHAIR TRUJILLO-DAVIS: Okay. Thank you for 16 that. That gives a good picture of some of the 17 difficulties you deal with and your group deals with on a 18 day-to-day basis. Thank you. 19 HEARING OFFICER ORTH: Thank you. Anything else 20 by way of questions? 21 Ms. Katz, will there be any follow-up? 22 MS. KATZ: Thank you, Madam Hearing Officer. 23 Yes, I just have a few questions I want to ask 24 Ms. Hollenberg to try to help clarify some of the Board's 25 questions.
562 1 three, if we had five, if we had ten, if we had twenty. 2 And, you know, you look at the resource 3 constraints of government in general, and we find, you 4 know, this is -- this is not my decision. It's decided 5 way above my head how those resources that we do have are 6 going to be spent. So could we use 20 inspectors? 7 Absolutely. Can we pay for them? That's -- that's a 8 question for somebody else. 9 CHAIRPERSON SUINA: And thank you for your 10 response, Ms. Hollenberg. And I apologize if I put you in 11 an awkward position in answering that, but I appreciate 12 your answer. 13 And thank you, Madam Hearing Officer. Those are 14 all the questions I have for now. 15 HEARING OFFICER ORTH: Thank you. Vice-Chair 16 Trujillo-Davis, do you have another question? 17 VICE-CHAIR TRUJILLO-DAVIS: Yes, I do. Thank 18 you, Madam Hearing Officer. 19 And thank you again, Ms. Suina. I really like 20 that "S" comes before "T" in questioning here, so thank 21 you. I'm going to follow up on some of Member Suina's 22 questions. I really only have one question, 23 Mrs. Hollenberg, is you were talking about small 24 facilities and how there's lot of those small facilities 25 and they don't get inspected as often, I think. But for	564 1 REDIRECT EXAMINATION OF CINDY HOLLENBERG 2 BY MS. KATZ: 3 Q. So the rule that the Department is proposing 4 to -- for the Board, do they -- they include far more 5 monitoring requirements, far more extensive monitoring and 6 recordkeeping requirements, like -- is that -- is that 7 correct, Ms. Hollenberg? 8 A. That is correct, yes. 9 Q. So, for instance, the rule -- these rules would 10 require weekly and monthly audiovisual and olfactory 11 inspections by the owners or operators; is that correct? 12 A. That's correct. 13 Q. So there will be more oversight by those 14 operators? 15 A. That is the goal. 16 Q. And they will have to record those inspections 17 and the results of those inspections? 18 A. Recordkeeping goes along with monitoring, that's 19 correct. 20 Q. And the Department, under the rules, can request 21 those records? Those records have to be available and the 22 Department can request them at any time; is that correct? 23 A. Yes. The Department -- the Department does have 24 the authority to request any records from any facility 25 that is possibly emitting an air contaminant.

565 1 Q. And these rules will apply far more broadly, not 2 just to permitted facilities? 3 A. That's my understanding, yes. 4 Q. And they will -- so if things like the PTE 5 calculations, the potential to emit calculations, will 6 have to be certified by a professional engineer or an 7 in-house engineer and the -- and the company will need to 8 keep records of that certification? 9 A. That -- that is correct as well. 10 Q. And they will -- and the companies will have to 11 submit annual certifications of compliance to the 12 Department; is that correct? 13 A. Yes. 14 Q. So those will help the Department to -- and the 15 industry, to ensure compliance and the integrity of the 16 reporting; is that correct? 17 A. Yes. Yes. 18 MS. KATZ: All right. Thank you. 19 HEARING OFFICER ORTH: All right. Thank you. 20 Any reason not to excuse Ms. Hollenberg? 21 MR. HISER: Madam Hearing Officer, I would like 22 to ask an additional question of her if we may. 23 HEARING OFFICER ORTH: Mr. Hiser? 24 RECROSS-EXAMINATION OF CINDY HOLLENBERG 25 BY MR. HISER:	567 1 MR. HISER: Thank you. 2 HEARING OFFICER ORTH: All right. And 3 Mr. Colclasure has a follow-up question. Mr. Colclasure? 4 MR. COLCLASURE: Yes. Thank you, Madam Hearing 5 Officer. 6 RECROSS-EXAMINATION OF CINDY HOLLENBERG 7 BY MR. COLCLASURE: 8 Q. Ms. Hollenberg, my name is Chris Colclasure; I'm 9 an attorney with Beatty and Wozniak, representing 3 Bear 10 Energy, which is a part of the Commercial Water Disposal 11 Group participating in this hearing. 12 You testified about the Department's reliance on 13 excess emission reports for its enforcement program. And 14 my question is whether you would agree that most 15 environmental programs rely heavily on self-reporting for 16 their enforcement programs? 17 A. I have no basis to answer that question. I've 18 only been involved with the New Mexico Environment 19 Department. 20 Q. Are you aware of additional reports that the 21 Department receives beyond excess emission reports that 22 can be used to show compliance? 23 A. Yes. We have federal reports that -- that many 24 companies must submit to both EPA and to the New Mexico 25 Environment Department. Our Title V facilities have to
566 1 Q. And this goes to the small modeling part of her 2 testimony. Ms. Hollenberg, in figure -- I think it's 1 of 3 your testimony, you presented a table showing pounds of 4 excess emissions by leaking due to oil and gas facilities. 5 Do you have that table available to you? 6 A. I am looking at it right now. 7 Q. Okay. And I apologize for making you do math on 8 the stand, but in 2020, it shows, for example, 652,000 9 pounds. To make it easier, let's drop the 912. What 10 would that be in tons? 11 A. Well, all you'd have to do is divide by 2000 so 12 we're looking at 3000 and -- 13 Q. Go ahead. Six hundred, or how many tons? 14 A. Well, 642,000 divided by 2000, so we're looking 15 at 300. 16 Q. Yeah, 300 and change, right? 300 to 325, in that 17 area. Were you here for Mr. Ralph Morris's testimony 18 earlier on modeling? 19 A. This morning and this afternoon, yes. 20 Q. Did you hear him testify that 10 times 67 tons 21 would still be insignificant, in terms of the effect? 22 A. I cannot say that I recall that statement, but... 23 Q. If that statement is true, would that be larger 24 than the number presented here for 2020 for at least NOx? 25 A. Yes.	568 1 submit semiannual reports and they also have to submit 2 annual compliance certifications. 3 Q. So -- thank you. Are you aware of other states 4 that also rely on self-reporting for their air quality 5 enforcement programs? 6 A. Like I said before, I have no basis to answer 7 that question since I've only worked for the New Mexico 8 Environment Department Air Quality Bureau. 9 Q. Would you agree that no matter how many 10 inspectors you have, there would still be a need for 11 reliance on self-reporting? 12 A. I would -- I would believe that that is true, 13 uh-huh. 14 MR. COLCLASURE: No further questions. 15 HEARING OFFICER ORTH: All right. Thank you. 16 Mr. Nykiel also has follow-up. 17 Theresa, are you doing okay? I know it's been 18 more than two hours. 19 (Court reporting nodding head.) 20 HEARING OFFICER ORTH: Go ahead, Mr. Nykiel. 21 RECROSS-EXAMINATION OF CINDY HOLLENBERG 22 BY MR. NYKIEL: 23 Q. Yeah, just briefly. Hello, Ms. Hollenberg. This 24 is Matt Nykiel on behalf of WildEarth Guardians. 25 You stated that the Department, under the

569 1 proposed rules, can request information that operators 2 collect through their monitoring and recordkeeping; is 3 that right? 4 A. That's correct. 5 Q. And then under the proposed rules, that 6 information that the Department can request is not 7 self-reported; is that right? 8 A. Not once we have requested it. Once we have 9 requested it, that is information that must be provided to 10 us. 11 Q. But -- but if it is not requested by the 12 Department, it's not otherwise self-reported? 13 A. That's -- if it's not requested by the 14 Department -- okay, please restate that question. 15 Q. I apologize. If the Department doesn't otherwise 16 request the information -- that information that the 17 operators collect, the operators don't otherwise 18 self-report that to the Department? 19 A. It's my understanding that it simply needs to be 20 made available to us upon request. 21 Q. Okay. And then you also stated that the 22 enforcement section has been -- has had resource 23 constraints on an ongoing basis? 24 A. Both compliance and enforcement. 25 MR. NYKIEL: Okay. Thank you very much. No	571 1 like he's ready to present his witness on that topic. 2 HEARING OFFICER ORTH: All right. Thank you so 3 much. Hello, Mr. De Saillan. 4 MR. DE SAILLAN: Thank you, Madam Hearing Officer 5 and thank you, Ms. Katz. The New Mexico Environmental Law 6 Center would like to call Ms. Theresa Pasqual. 7 HEARING OFFICER ORTH: Let me find her, if I 8 haven't already made her a panelist. I must have already 9 made her a panelist. 10 MR. DE SAILLAN: She already is, Madam Hearing 11 Officer. She is a panelist. 12 HEARING OFFICER ORTH: Terrific. Will she need 13 to present slides? 14 MR. DE SAILLAN: She will not be presenting 15 slides, no, Madam Hearing Officer. 16 HEARING OFFICER ORTH: All right. 17 MR. DE SAILLAN: And for the Board following 18 along, we'll be referring to NMELC Exhibits 1 and 2. 19 HEARING OFFICER ORTH: Thank you very much for 20 that. Welcome, Ms. Pasqual. Would you raise your right 21 hand? Do you swear or affirm to tell the truth? 22 MS. PASQUAL: I do. 23 HEARING OFFICER ORTH: Thank you very much. 24 THERESA PASQUAL, 25 having been first duly sworn or affirmed, was examined
570 1 further questions. 2 MS. HOLLENBERG: Okay. 3 HEARING OFFICER: Thank you, Mr. Nykiel. 4 Ms. Katz, anything further at all? 5 MS. KATZ: No. No, thank you, Ms. Hearing 6 Officer. 7 HEARING OFFICER ORTH: All right. Great. Thank 8 you. Thank you very much, Ms. Hollenberg. Thank you for 9 sticking in there with us. 10 MS. HOLLENBERG: No problem. Thank you. 11 HEARING OFFICER ORTH: We need a break. Let's 12 come back at 4:15. 13 (Recess taken from 4:00 p.m. to 4:15 p.m.) 14 HEARING OFFICER: Ms. Katz, would you direct us 15 on the screen? 16 So I'm prepared to respond. And do we have 17 Thompson next on this topic or am I -- or did I follow the 18 line across incorrectly? 19 MS. KATZ: No. Madam Hearing Officer, I believe 20 Ms. Thompson is not available today and needs to testify 21 tomorrow. 22 HEARING OFFICER ORTH: All right. So where are 23 we going from here? 24 MS. KATZ: I would suggest that we move to Topic 25 8. And I see Mr. De Saillan on the screen, so it seems	572 1 and testified as follows: 2 DIRECT EXAMINATION OF THERESA PASQUAL 3 (Topic 8) 4 BY MR. DE SAILLAN: 5 Q. Could you state your name for the record, please? 6 A. Yes. My name is Theresa Pasqual. 7 Q. Thank you. And could you start by giving a 8 little bit of your background and your experience? 9 A. Yes. Good day, Madam Chair, members of the Board 10 and Madam Hearing Officer. My background and expertise 11 comes from my experience as Director of Acoma's Historic 12 Preservation Office. And over the course of my 13 professional career, working with 23 tribal communities in 14 the State of New Mexico to understand long-term impacts 15 from extractive industries on our cultural and physical 16 well-being. 17 I'm also the Board President of Conservation 18 Voters New Mexico and I'm working toward the completion of 19 my Bachelor of Science degree in Anthropology from the 20 University of New Mexico. 21 Q. And Ms. Pasqual, your Bachelor degree, is that a 22 correction that you would like to make to your written 23 testimony? 24 A. Yes, it is. 25 Q. Okay. Your written testimony, I believe,

573 1 indicates that you already have the Bachelor degree, but 2 you're not quite there yet; is that correct? 3 A. Correct. 4 Q. Okay. And Ms. Pasqual, is your resume the 5 document that is marked as NMELC Exhibit 2? 6 A. Yes, it is. 7 Q. And is it accurate and up to date, other than -- 8 excuse me. Is it accurate and up to date? 9 A. Yes, it is. 10 Q. Okay. Now, Ms. Pasqual, have you prepared a 11 statement or testimony for today's hearing? 12 A. Yes, I have. 13 Q. And could you go ahead and give that 14 presentation, please? 15 A. Thank you. Acoma is very familiar with the long 16 history of extraction in New Mexico. In the 1950s, Acoma 17 was immersed into a period of uranium mining and the 18 effects it had to surface and groundwater. As mine sites 19 were closed and mill sites decommissioned, communities 20 were left to deal with open shafts uranium tailings and 21 contaminated soil that blew uncontrollably every time the 22 wind blew. 23 Next, came a period of coal mining to the north 24 of Acoma, along with the transport and burning of coal to 25 power generating plants. Both the extraction and	575 1 NOx and ozone are known to cause respiratory and 2 cardiovascular diseases, including asthma, which is 3 particularly prevalent in children. 4 Oil and gas production also emits methane, a 5 potent greenhouse gas. Air pollution from oil and natural 6 gas production disproportionately affects Native American 7 and Hispanic communities in New Mexico. According to data 8 compiled by the Environment Department, three counties in 9 the San Juan Basin in Northern New Mexico are currently 10 experiencing or contributing to ambient ozone 11 concentrate -- concentrations exceeding 95 percent of the 12 National Ambient Air Quality Standard: Rio Arriba County, 13 Sandoval County and San Juan County. A large proportion 14 of the people living in these counties are Native American 15 or Hispanic. 16 According to the 2010 census, the population of 17 Rio Arriba County was 40,246 people. Of this population, 18 16 percent was Native American and 71.3 percent was 19 Hispanic. The population of Rio Arriba County was 131,561 20 people. Of this population, 12.9 percent was Native 21 American and 35.1 percent was Hispanic. The population of 22 San Juan County was 130,044 people. Of this population, 23 36.6 percent was Native American and 19.1 percent was 24 Hispanic. 25 We support the Environment Department's proposal
574 1 processing of coal-generated toxins contaminated land, air 2 and water. 3 Now, we are experiencing the effects of oil and 4 gas production in close proximity to indigenous 5 communities. These communities have carried the burden of 6 extraction and its impacts to health and well-being for 7 decades. The impacts are exacerbated by the fact that 8 many tribal communities lack adequate access to basic 9 healthcare and clean drinking water. 10 Tribal communities are often left out of the 11 regulatory and decision making processes that would give 12 them the opportunity to engage during the planning stage. 13 I am testifying today on behalf of the New Mexico 14 Environmental Law Center to give this Board a tribal 15 perspective. We generally support the Environment 16 Department's proposed rule regulating ozone precursor 17 pollutants from oil and gas production facilities under 18 the New Mexico Air Quality Control Act. 19 Oil and natural gas production facilities emit 20 several harmful air pollutants into the atmosphere. These 21 harmful air pollutants include volatile organic compounds, 22 or VOCs, including benzene, which is a known human 23 carcinogen. These pollutants also include nitrogen oxides 24 or NOx. VOCs and NOx react with oxygen and sunlight to 25 form ground-level ozone. All of these pollutants, VOCs,	576 1 to regulate and thus reduce emissions of VOCs and NOx from 2 oil and natural gas production facilities in New Mexico. 3 We are pleased that the Environment Department has removed 4 the exemption for low-volume stripper wells and the 5 exemption for wells at facilities that have the potential 6 to emit less than 15 tons per year of VOCs. While these 7 exemptions were in the draft proposal that the Environment 8 Department released in July of last year, the exemptions 9 have been removed from the proposal submitted to the 10 Environmental Improvement Board. We strongly support the 11 Environment Department's decision to remove these 12 exemptions. Thank you. 13 Q. Thank you, Ms. Pasqual. I don't have any other 14 questions. And at this point I would like to move for the 15 admission of NMELC Exhibits 1 and 2. 16 HEARING OFFICER ORTH: I don't believe I remember 17 seeing objections to those, Mr. de Saillan. 18 MR. DE SAILLAN: I don't remember seeing an 19 objection to them either, Madam Hearing Officer. 20 HEARING OFFICER ORTH: I'll just pause for a 21 moment in case anyone wants to speak up. 22 NMELC Exhibits 1 and 2 are admitted. 23 (NMELC Exhibits 1 and 2 received into evidence at 24 this time.) 25 MR. DE SAILLAN: The witness is now available for

577 1 cross-examination, Madam Hearing Officer. 2 HEARING OFFICER ORTH: Thank you. Ms. Katz, do 3 you have questions of Ms. Pasqual? 4 MS. KATZ: No, Madam Hearing Officer. Thank you. 5 HEARING OFFICER ORTH: Thank you. Ms. Fox? 6 MS. FOX: No. Thank you for your testimony, 7 Ms. Pasqual. 8 HEARING OFFICER ORTH: I believe Ms. Paranhos has 9 left us. Professor Pacyniak? 10 PROFESSOR PACYNIK: No questions, Madam Hearing 11 Officer. 12 HEARING OFFICER ORTH: All right. I believe 13 Ms. Devore had to leave us. 14 Mr. Nykiel? 15 MR. NYKIEL: No questions. Thank you. 16 HEARING OFFICER ORTH: Thank you. Mr. Hiser? 17 He may have stepped away. Mr. Rose? 18 MR. ROSE: No questions, Madam Hearing Officer. 19 MR. HISER: I have no questions, Madam Hearing 20 Officer. I couldn't get my mute button. 21 HEARING OFFICER ORTH: Mine sticks sometimes, 22 too. Thank you, Mr. Hiser. 23 Mr. Janoe? 24 MR. JANOE: No questions. 25 HEARING OFFICER ORTH: All right. Mr. Butzier?	579 1 and San Juan are the ones that you were focused on in your 2 testimony. 3 MS. PASQUAL: Yes. Madam Chair, I don't have the 4 exact number of tribes in those counties -- in those 5 particular counties, although we know that Navarro makes 6 up the majority of area in San Juan County. Sandoval 7 County also has several different pueblos in its 8 jurisdiction. Those pueblos of Jemez and Zia, Santa Ana, 9 are a few of those pueblos that are there. Sandia is also 10 one of them that is also in that jurisdiction. 11 I'm not familiar with which ones are in Rio 12 Arriba County specific, but we also know, Madam Chair, 13 that there are a number of pueblos and tribes who maintain 14 ancestral lands that they still have physical connection 15 to even though the reservation proper is outside of those 16 particular county jurisdictions. 17 CHAIRPERSON SUINA: Thank you for that response, 18 Ms. Pasqual. To follow up on your last statement there, 19 are some of those ancestral lands outside of both tribal 20 reservations boundaries as well as federal land and on 21 state or private lands? Is that correct? 22 MS. PASQUAL: Yes. Madam Chair, ancestral lands, 23 of course, in present day really are under the management 24 of a whole host of entities. They could be state land, 25 federal land or private land, or on other tribal land. So
578 1 MR. BUTZIER: No questions. Thank you. 2 HEARING OFFICER ORTH: Thank you. Ms. Gutierrez? 3 MS. GUTIERREZ: No questions, Madam Hearing 4 Officer. 5 HEARING OFFICER ORTH: All right. Ms. Shpall? 6 MR. COLCLASURE: This is Chris Colclasure. No 7 questions from the water group. 8 HEARING OFFICER ORTH: All right. Thank you. 9 MS. SHPALL: Nothing from Ms. Shpall. 10 HEARING OFFICER ORTH: And Ms. Witherspoon? 11 MS. WITHERSPOON: No questions. Thank you. 12 HEARING OFFICER ORTH: All right. Thank you. 13 I'm going to turn to the Board members. In the event you 14 are an attendee rather than a panelist, please reach out 15 through the Chat if you have a question. 16 EXAMINATION BY THE BOARD OF THERESA PASQUAL 17 HEARING OFFICER ORTH: Madam Chair, do you have 18 any questions? 19 CHAIRPERSON SUINA: Thank you, Madam Hearing 20 Officer. Yes, I do have a couple of questions for 21 Ms. Pasqual. Thank you. Ms. Pasqual, I was wondering if 22 you could provide us additional information regarding the 23 number of pueblos and tribes in each of the counties. Do 24 you have that information available? 25 I'm sorry. I apologize. In Rio Arriba, Sandoval	580 1 present day pueblos and tribes are having to navigate 2 those different jurisdictional boundaries. 3 I will use example of my home pueblo, which is 4 the pueblo of Acoma, where we maintain connections and 5 active engagement with our ancestral lands that are beyond 6 Acoma's current day boundary. Those may be places that 7 are around Chaco -- the greater Chaco and landscape 8 outside of the park proper, places that take us further 9 north of Chaco, all the way up into Colorado, areas into 10 Arizona, and places into Utah. 11 And so when we are talking about impacts from oil 12 and gas development, we are also talking about those 13 communities that may have present day ties to ancestral 14 lands beyond the proper or present day boundaries of any 15 given pueblo or tribe. 16 CHAIRPERSON SUINA: Thank you for that, 17 Ms. Pasqual. And is the ancestral -- or are the ancestral 18 boundaries even beyond the counties of Rio Arriba, 19 Sandoval and San Juan, of many of the indigenous 20 communities in New Mexico? 21 MS. PASQUAL: Yes, Madam Chair. There are 22 ancestral lands beyond the three counties that I indicated 23 in my -- in my statement. We know, for example, for the 24 Pueblo of Acoma that we do have ancestral lands that go 25 further south of our community down toward the City of

581 1 Silver City. We have ancestral lands that take us all the 2 way out toward the Sandia Mountains -- present day Sandia 3 Mountains and as far west toward the San Francisco peak. 4 So we are talking about a large swath of land and other 5 counties within the state that have -- that have current 6 and present day ties to pueblos and tribes, which also 7 makes -- which also makes managing -- managing the effects 8 from all of the different industries much more difficult 9 for tribes and pueblos to -- to keep tabs on. 10 So when we are talking about land management or 11 having the ability to -- the ability to -- to react to 12 some of these impacts on these resources or on our 13 relationships with these places, it does pose a huge 14 significant burden to the community. 15 CHAIRPERSON SUINA: Thank you again for that, 16 Ms. Pasqual. I also wanted to ask you, so, I know, you 17 know, sometimes there are culturally sensitive pieces of 18 the ties to the land, but could you explain more what you 19 were alluding to in your response right now, of why -- how 20 these rules would impact or be helpful to the ancestral 21 lands that the indigenous people of New Mexico are tied 22 to? 23 MS. PASQUAL: Yes, Madam Chair. The reason why 24 this proposed rule would be important for communities -- 25 pueblos and tribal communities like mine is because we	583 1 experts about the health of those resources, both in 2 wildlife, our cultural resources, and our natural 3 resources. So that's why this rule is significant, and 4 why it is much needed for us. 5 CHAIRPERSON SUINA: Thank you again for your 6 responses. I just have a few more questions. So, in 7 terms of the tribal jurisdictional areas, do some of those 8 jurisdictional areas have also -- or tribes or pueblos 9 have treatment as a state, in terms of air quality? Do 10 you know, do you have knowledge of that? 11 MS. PASQUAL: No, Madam Chair, I don't. To 12 answer your question. There are, of course, depending on 13 what the agency -- who the agency is, they may have a 14 relational -- meaning a government-to-government 15 obligation to engage with tribes, but that -- that really 16 depends on the agency, Madam Chair. 17 CHAIRPERSON SUINA: Thank you so much, 18 Ms. Pasqual. 19 Madam Hearing Officer, that's all I have for 20 right now. 21 HEARING OFFICER ORTH: Thank you very much. 22 Vice-Chair, Trujillo-Davis, do you have questions? 23 VICE-CHAIR TRUJILLO-DAVIS: Yes, and I just want 24 to thank Ms. Pasqual for taking the time to testify today 25 and I appreciate the information.
582 1 know that we have cultural practitioners who -- although 2 they reside here in other home community, go out to these 3 ancestral lands to engage with the landscape, to perhaps 4 be in those areas where resources are gathered, where some 5 of these significant cultural sites may exist. So, 6 although there may not be a community situated right next 7 to oil and gas development, those emissions do impact not 8 only the environment in which our cultural practitioners 9 and our community members engage with those resources, but 10 because they are spending significant time in those areas, 11 also are impacted by their exposure from those emissions. 12 Many of our cultural practitioners, as well as 13 community members, also note based on their land-based 14 experience, the quality of -- of how the environment is 15 doing. We oftentimes refer to that as traditional 16 ecological knowledge, which you may hear referred to 17 sometimes as TEK. And it's this land-based knowledge by 18 our cultural practitioners, our cultural experts, really, 19 that tells us about the health of the land and of the 20 resources that exist in these areas. 21 Many of our cultural experts will also be able to 22 tell the health of plant life, which I know there are 23 other technical experts who can give us scientific -- 24 western scientific information that supports that kind of 25 traditional scientific information provided by our own	584 1 My question was purely administrative. I -- I 2 don't seem to have in my notes what organization you're 3 representing. 4 MS. PASQUAL: Yes. I am representing the New 5 Mexico Environmental Law Center. 6 VICE-CHAIR TRUJILLO-DAVIS: Oh, okay. All right. 7 Thank you, ma'am. I appreciate it. 8 HEARING OFFICER ORTH: Thank you. Member Cates, 9 do you have any questions? 10 BOARD MEMBER CATES: No questions, but I would 11 like to thank Ms. Pasqual for being here, and just talk 12 for a minute about the fact that so much of what we 13 discuss around environmental issues in New Mexico seems to 14 exclude or preclude voices of color: Hispanic, tribal 15 voices. It's -- you know, it's a phenomenon that -- it's 16 a phenomenon that borders on the bizarre at times. And 17 it's as if all too often Caucasians are driving the 18 discussion without input or without participation, without 19 any thought for tribal and Hispanic populations. And I 20 just want to get that rant off my chest, and encourage 21 this Board to continue to broaden its inclusion of all 22 voices in this state. 23 So, thanks, Ms. Pasqual, for being here. 24 HEARING OFFICER ORTH: Thank you. Member Bitzer? 25 BOARD MEMBER BITZER: Yeah. Ms. Pasqual, I'm not

585 1 sure if you're aware of our -- of our charter, if you 2 will, but we're supposed to balance the needs from an 3 environmental perspective with those and impacts on the 4 community, with those economic interests. The state gets 5 a lot of revenue from the oil and gas sector, a low 10 6 figure sum every year. 7 Do you know if the tribal governments share any 8 of that revenue directly? 9 MS. PASQUAL: No, I don't. I don't have 10 information to provide to that. 11 BOARD MEMBER BITZER: That's all I have. 12 HEARING OFFICER ORTH: Thank you. Member Garcia? 13 BOARD MEMBER GARCIA: I do. I just have one 14 question. Thank you for -- can you hear me? Thank you 15 for your testimony, Ms. Pasqual. I understand the state 16 spent two years working on the development of this rule 17 and I know there was a stakeholder process. Aside from 18 Acoma Pueblo, do you know if there were other tribal 19 stakeholders involved in the rulemaking stakeholder 20 process? 21 MS. PASQUAL: No, I do not. 22 BOARD MEMBER GARCIA: But Acoma was involved? 23 Did you have a seat at the table? 24 MS. PASQUAL: To my knowledge, Acoma's 25 involvement in this process has been with ongoing	587 1 REDIRECT EXAMINATION OF THERESA PASQUAL 2 BY MR. DE SAILLAN: 3 Q. I want to ask Ms. Pasqual -- I'd like to ask you 4 about the Chair's question. I want to follow up on that a 5 little bit. She asked you how this rule would affect 6 tribal communities. And so I want to ask you, first of 7 all, is it your understanding that this rule will result 8 in enhanced monitoring of oil and gas facilities 9 particularly through leak detention and repair 10 requirements? 11 A. Yes, it is. 12 Q. And do you see that as being beneficial to Native 13 communities that are located in the vicinity of oil and 14 gas production? 15 A. Yes, I do. 16 MR. DE SAILLAN: Thank you. That's all the 17 questions I have. 18 HEARING OFFICER ORTH: Okay. Thank you. Thank 19 you very much, Ms. Pasqual, for your testimony. And thank 20 you, Mr. de Saillan. Will there be other testimony, 21 Mr. de Saillan? 22 MR. DE SAILLAN: That is all we have, Madam 23 Hearing Officer. Thank you. 24 HEARING OFFICER ORTH: Thank you. 25 Do we move at this point to CCP and NAVA,
586 1 consultations as part of its discussions with the 2 Environment Department. There are a whole host of 3 departments within the Pueblo of Acoma that could possibly 4 take on that -- that conversation. My office currently, 5 the Historic Preservation Office is only one office. 6 There is other offices that could potentially have been 7 involved with those discussions, including the Environment 8 Department, the Department of Natural Resources or our 9 Water Rights Board. It really isn't a department, but it 10 is a board. 11 And all of us work jointly as a team, but also 12 work independent of each other. And so, while I can't 13 attest to their involvement, my testimony and my -- my 14 presence here is also part of -- part of my work for 15 Acoma's Historic Preservation Office. 16 BOARD MEMBER GARCIA: Thank you very much, 17 Ms. Pasqual. That's all. 18 HEARING OFFICER ORTH: Thank you. Member Honker? 19 BOARD MEMBER HONKER: Thank you, Ms. Pasqual, for 20 your testimony. I don't have any questions. 21 HEARING OFFICER ORTH: Thank you. And I don't 22 see anything in the Chat. 23 Mr. De Saillan, will there be any follow-up? 24 MR. DE SAILLAN: Yes, Madam Hearing Officer. I 25 just have a little bit.	588 1 Ms. Katz? 2 MS. KATZ: Yes, Madam Hearing Officer. That 3 would be Topics Number 9 and then Number 10. 4 HEARING OFFICER ORTH: All right. Thank you. I 5 see Mr. Jaynes. 6 MR. JAYNES: Good afternoon, Madam Hearing 7 Officer. Do you want me to go ahead? 8 HEARING OFFICER ORTH: Yes, please. 9 MR. JAYNES: All right. Our first nontechnical 10 witness is James Povijua. He should be in the 11 participants room? 12 HEARING OFFICER ORTH: Oh, I see him on screen. 13 I made him a panelist. 14 MR. JAYNES: Yes, and thank you. 15 HEARING OFFICER ORTH: Welcome. Would you raise 16 your right hand, please. Do you swear or affirm to tell 17 the truth? 18 MR. POVIJUA: Yes, I do. 19 HEARING OFFICER ORTH: Thank you. 20 MR. JAYNES: And Madam Hearing Officer, I would 21 also like to address the Center for Civic Policy and NAVA 22 Education Projects' exhibits. We would like to move to 23 admit Center for Civic -- or the Exhibits 1 through 5 and 24 8 at this time. We are continuing to work on our response 25 to NMOGA's motion to strike Section 6 of CCP's rebuttal

589 1 testimony. So we will wait on them, to admit 6 and 7 at 2 this time. We are planning to file our response within 3 the next day or so to that objection. 4 HEARING OFFICER ORTH: All right. Thank you. As 5 I understand that there are not objections to the exhibits 6 you've just moved. I'll pause though, in case I 7 misunderstood that. 8 MR. JAYNES: I do believe there was an objection 9 raised to Exhibits 3 and 4. 10 MR. ROSE: That's correct, Madam Hearing Officer. 11 HEARING OFFICER ORTH: Oh, Mr. Rose. Okay. 12 MR. ROSE: Yes. 13 HEARING OFFICER ORTH: So sorry, that was -- that 14 was the other page. 15 Mr. Rose, would you speak your objection, please? 16 MR. ROSE: Yes. To the extent that those 17 exhibits relate to or induce testimony related to methane 18 emissions and the impacts of methane, we believe that that 19 testimony would be irrelevant and outside the scope of the 20 hearing, which is limited to ozone precursors; methane, 21 not being one of them. 22 HEARING OFFICER ORTH: Thank you. 23 Mr. Jaynes, do you have a response? Oh, wait, I 24 see David Baake. 25 MR. BAAKE: Yes. Madam Hearing Officer, this --	591 1 think this is the best time and I would like to do it 2 tomorrow. I'm not sure that I want to do it first thing, 3 though, because it's important that we hear from the 4 economics folks, and one of them is in a very different 5 time zone. So what I'd like to do is take this exhibit 6 discussion up when, A., thank you, Mr. Baake, we have 7 Ms. Paranhos, and B., we're not running into a potential 8 conflict with a faraway witness. 9 But thank you for raising it, and I think what 10 I'd like to do is hear the testimony of Mr. Povijua and 11 set aside the exhibit discussion. 12 And I did forget to ask Mr. Povijua to spell his 13 name. 14 MR. POVIJUA: Absolutely. My last name is 15 spelled P-as-in-Paul, O, V-as-in-Victor, I-J-U-A. 16 HEARING OFFICER ORTH: Thank you. 17 Go ahead, Mr. Jaynes. I'd like to hear from your 18 witness and we'll have public comment after that. 19 WARREN JAMES POVIJUA HONABERGER, 20 having been first duly sworn or affirmed, was examined 21 and testified as follows: 22 DIRECT EXAMINATION OF WARREN JAMES POVIJUA HONABERGER 23 BY MR. JAYNES: 24 A. Thank you, Madam Hearing Officer. So my full 25 name is -- (unintelligible) James Honaberger; I will spell
590 1 I just wanted to flag that this objection was also 2 levied -- the same exact objection to Clean Air Advocates 3 and EDF exhibits as well. So before ruling on issues that 4 might potentially implicate our exhibits as well, I think 5 all of us would like to be heard. 6 MR. ROSE: And Madam Hearing Officer, I raised 7 that early on in terms of when to deal with this. So 8 we're dealing with it, I guess -- we could deal with it 9 independently of the admission of these exhibits, or now, 10 or whenever you think it's appropriate. But -- but he's 11 correct, we've raised the same exhibits -- or the same 12 objections to some of EDF's exhibits as we did for Clean 13 Air Advocates Exhibits and others, so... 14 MR. BAAKE: Madam Hearing Officer, I might 15 suggest that perhaps we try to deal with this first thing 16 tomorrow. I think Ms. Paranhos is not on the line right 17 now, if I'm not mistaken. 18 HEARING OFFICER ORTH: That's right. 19 MR. BAAKE: I wouldn't want her to lose her 20 opportunity to weigh in on this either, so if that's 21 agreeable to Mr. Rose. 22 MR. ROSE: We can -- we can raise it at any time. 23 Whatever the Hearing Officer thinks is the most 24 appropriate timeline to deal with is fine. 25 HEARING OFFICER ORTH: All right. So, I don't	592 1 Honaberger as well, which is H-O-N-as-in-Nathan, A, 2 B-as-in-burger, E-R, G-as-in-George, E-R, but I go by 3 James Povijua, which includes my mother's maiden name 4 (unintelligible) and shows that I am a member of Ohkay 5 Owingeh Pueblo. I am here today in my professional 6 capacity for the organization that I work for. 7 Q. Thank you, Mr. Povijua. And what is your 8 occupation? 9 HEARING OFFICER ORTH: He was -- I'm sorry to 10 interrupt. He was breaking up a little bit and so he's 11 going to have to slow down and speak up. And if Theresa 12 starts waving or I start waving, he's going to have to 13 repeat. 14 MR. POVIJUA: I understand. I can review that. 15 My full name is Warren James Honaberger, I will spell my 16 last name, which is H-O N as in Nathan, A, B-as-in-burger, 17 E-, G-as-in-George, E-R, but I go by James Povijua, which 18 includes my mother's maiden name and shows I'm a member of 19 Ohkay Owingeh Pueblo. As I said, I am here in my 20 professional capacity for the organization I work for. 21 Q. Okay. Thank you, Mr. Povijua. And what is your 22 occupation? 23 A. I am the policy director for the Center for Civic 24 Policy. 25 Q. Can you please tell us where you're from and any

593 1 other relevant background? 2 A. I am from Alcalde, New Mexico and as I 3 mentioned -- (unintelligible.) 4 COURT REPORTER: I'm sorry. Wait, wait, wait. 5 I'm sorry. I did not hear your question Mr. Jaynes, the 6 first question. And Mr. Povijua, I don't know why, but 7 you're -- you're skipping and so I'm having a terrible 8 time hearing you. 9 MR. JAYNES: I see. I am the policy director for 10 the Center for Civic Policy. 11 MR. JAYNES: All right. And do you want us to go 12 on to the next question, that one as well? 13 COURT REPORTER: (Nodding head.) 14 Q. (BY MR. JAYNES) So Mr. Povijua, can you please 15 tell us where you are from and any other relevant 16 background? 17 A. Yes. I am from -- (unintelligible) -- Alcalde, 18 New Mexico, and as I mentioned I am a member of Ohkay -- 19 no? Are you able to hear me? 20 COURT REPORTER: I can hear you, but you are 21 breaking up. Is anybody else having this same issue? 22 HEARING OFFICER ORTH: Yes. 23 COURT REPORTER: Okay. You are. So where in New 24 Mexico? I didn't get the name of the town. 25 A. Got it. Ohkay, which is O-H-K-A-Y. And Owingeh	595 1 Q. And is Center for Civic Policy and NAVA Education 2 Project Exhibit 8 an accurate -- an accurate version of 3 your rebuttal testimony? 4 A. Yes, it is. 5 Q. And do you adopt Exhibit 8 as your rebuttal 6 testimony? 7 A. Yes. 8 Q. Great. Mr. Povijua, can you please describe 9 Center for Civic Policy's work? 10 A. Yes. The Center for Civic Policy is a nonprofit, 11 nonpartisan organization that works with every day New 12 Mexicans in collaboration with local and national 13 partners. We ensure broad and inclusive civic engagements 14 among underrepresented communities. Our efforts span 15 across various policy areas, which include inclusive 16 democracy, immigrant rights, early childhood education, 17 workers' right, reproductive justice, healthcare, economic 18 justice, conservation, the environment and climate equity 19 placement. 20 Q. Thank you. And how does your work with Center 21 for Civic Policy relate to the oil and gas industry here 22 in New Mexico? 23 A. So I work directly with organizations that 24 organize low-wage oil and gas workers from low to moderate 25 communities in New Mexico. I and my colleagues facilitate
594 1 is O-W-I-N-G-E-H Pueblo, which is located in Rio Arriba 2 County and overlays the San Juan Basin. Ohkay Owingeh 3 Pueblo is in the lower part of Rio Arriba County. 4 HEARING OFFICER ORTH: So, Mr. Povijua, I'm 5 wondering if -- although it's lovely to see you on the 6 screen, if perhaps the sound would improve if your video 7 were off. It's helped with other people in the past. 8 MR. POVIJUA: Sure. Let's try that. 9 HEARING OFFICER ORTH: Oh, that already sounds 10 better. 11 MR. POVIJUA: Excellent. 12 HEARING OFFICER ORTH: Go ahead, Mr. Jaynes. 13 Q. (BY MR. JAYNES) Absolutely. Thank you, 14 Mr. Povijua. And was a copy of your resume submitted as 15 Center for Civic Policy and NAVA Education Project's 16 Exhibit 2? 17 A. Yes. 18 Q. Perfect. Is Exhibit 2 a true and accurate 19 version of your resume? 20 A. Yes. 21 Q. Is Center for Civic Policy and NACA Education 22 Project's Exhibit 3 an accurate version of your testimony? 23 A. Yes. 24 Q. And do you adopt Exhibit 3 as your testimony? 25 A. Yes.	596 1 The Power for New Mexico Coalition which works toward 2 growing community power and amplifying community voices to 3 inform New Mexico's transition to a regenerative economy 4 in which all communities thrive. The Power for New Mexico 5 Coalition was formed in 2018 out of the concern that 6 communities disproportionately impacted by the impacts of 7 the extractive industries would be left behind in the 8 state's long-term economic development. 9 I and my colleagues have also been highly engaged 10 with the University of New Mexico's natural resources and 11 environmental law clinic's representation of the Center 12 for Civic Policy during the NMED, New Mexico Environment 13 Department and the New Mexico Energy Minerals and Natural 14 Resources Methane Advisory Panel Process, and then 15 developing comments on earlier versions of the ozone 16 precursor rule and the New Mexico Oil Conservation 17 Commission's natural gas waste rule. 18 Q. Thank you, Mr. Povijua. 19 And do you have any personal experience with 20 populations affected by oil and gas pollution? 21 A. As I've mentioned several times, I am a member of 22 the Ohkay Owingeh Pueblo, and I am here in my professional 23 capacity. And I work with other Native American tribes 24 and communities of color near oil and gas producing 25 fields, which has allowed me to observe Native people

597 1 often experiencing health problems, including problems 2 such as asthma or cancer, that I understand can be caused 3 by oil and gas pollution. 4 I have also personally observed members of Native 5 populations living near oil and gas producing lands 6 experiencing difficulty accessing healthcare. I will also 7 note that I am from Rio Arriba County. The other tribes 8 that are within the boundaries of the Rio Arriba County 9 include the Navajo Nation, the Jicarilla Apache Nation, 10 the Santa Clara Pueblo, in addition to the Ohkay Owingeh 11 Pueblo. 12 Q. Thank you. 13 And are there specific facts and circumstances 14 that you would recommend the EIB particularly consider in 15 this rulemaking, given the Center for Civic Policy's 16 mission and experience working to support underserved 17 communities? 18 A. Yes. The Center for Civic Policy strongly 19 encourages the EIB to ensure that the rule adequately 20 reduces ozone precursors, nitric oxides and volatile 21 organic compounds, VOCs, with an adequate margin of safety 22 in those counties that are in danger of exceeding federal 23 National Ambient Air Quality Standards. Additionally, 24 Center for Civic Policy strongly urges the EIB to also 25 consider whether the strategies adopted to reduce ozone	599 1 Q. Thank you. 2 And do you have any specific recommendation for 3 the EIB with regards to the proposed regulation? 4 A. Yes, we do. Center for Civic Policy and NAVAEP 5 recommend that the EIB adopt the proposed amendments set 6 forth in Exhibit 5 -- (unintelligible) -- oh, okay. 7 COURT REPORTER: Okay. One second. Just start 8 off, you said, "Yes, we do." And then, Center for Civic 9 Policy and NAVA recommend that the EIB urge -- anyway, 10 that's all I heard, sorry. 11 MR. POVIJUA: Not at all. It's been a long day, 12 I'm sure. And I will definitely try to slow down. 13 A. As I said, the Center for Civic Policy and 14 NAVAEP, NAVA Education Projects, recommend the EIB adopt 15 the proposed amendments set forth in Exhibit 5 to our 16 rebuttal testimony, which CCP and NAVAEP support, together 17 with the Clean Air Act Advocates and the Environmental 18 Defense Fund. 19 These changes to NMED's proposal would do the 20 following: Increase the frequency of leak detection 21 repair in sections that wellhead sites are located within 22 1000 feet of homes, schools and businesses in order to 23 better protect the health of frontline communities, 24 increase the timetable to retrofit pneumatic controllers, 25 to increase emission reductions from those devices, which
598 1 precursor will also prevent direct health harms from the 2 VOCs, especially VOCs that are toxic to humans. 3 We also recommend and urge the EIB to consider 4 how the pollution controls employed by this rule to reduce 5 ozone precursors can also be used to reduce greenhouse gas 6 emissions, such as methane and, therefore, mitigate the 7 impacts of climate change. CCP urges the EIB to consider 8 how these regulations -- (unintelligible.) 9 HEARING OFFICER ORTH: Hold on. 10 MR. JAYNES: Hold on, Mr. Povijua. 11 HEARING OFFICER ORTH: I'm sorry. We have to ask 12 you to back up about two sentences, I think. 13 MR. POVIJUA: I apologize. I will also try to 14 slow down. 15 A. I'll start with the last recommendation that we 16 have. CCP urges the EIB to consider how the pollution 17 controls employed by this rule to reduce ozone precursors 18 can also be used to reduce greenhouse gas emissions, such 19 as methane, and therefore mitigate the impacts of climate 20 change. 21 Center for Civic Policy urges the EIB to consider 22 how these regulations, and the pollution control measures 23 they require, can produce the co-benefits of increased 24 revenues received from oil and gas production that can be 25 used for the public benefit.	600 1 are significant, would also require emissions from 2 completions and recompletions, to increase emission 3 reductions from those devices -- excuse me. Let me start 4 over -- require emissions from completions and 5 recompletions of wells to be captured instead of vented or 6 flared. 7 It would also require automatic vessel 8 measurement systems on new storage vessels, to minimize 9 venting emissions from those devices. 10 Q. Thank you, Mr. Povijua. 11 Why do you believe it is important for the EIB to 12 consider the proposed amendments? 13 A. So our proposed amendments are important in order 14 to fully protect the public and health -- excuse me -- 15 public health and the environment from one of the largest 16 sources of oil and gas pollution, including reducing ozone 17 formation as well as reduce direct emissions of VOCs and 18 greenhouse gases. 19 Among other benefits, the proposed amendments 20 will provide additional safeguards to ensure that people 21 who are living or working or children who are studying or 22 playing in close proximity to oil and gas wells, get the 23 full benefits of the pollution control strategies used to 24 find and fix pollution leaks. 25 This is because the proximity proposal would not

601 1 only result in the reduction of emission of ozone 2 precursor, but also would have the co-benefit of helping 3 to present serious health harms that can result from 4 direct exposure to toxic pollutants. This proximity -- 5 (unintelligible) -- excuse me -- proposal is also an 6 important policy to ensure that minorities and low-income 7 residents are not disparately impacted by these air 8 pollutants. 9 I understand that other witnesses, including EDF 10 witnesses, such as Tammy Thompson and Hillary Hull, who 11 will testify that volatile organic compounds emitted from 12 well sites are toxic chemicals that can harm people living 13 in close proximity to their release. The many people in 14 the eight counties subject to this regulations are people 15 of color, including Native Americans. 16 This proximity proposal will, therefore, help 17 ensure that these communities get the full benefits from 18 technologies that stop leaks of VOC pollution by this 19 rulemaking. 20 Q. Thank you, Mr. Povijua. 21 MR. JAYNES: Madam Hearing Officer, this 22 concludes Mr. Povijua's testimony and he stands for 23 cross-examination. 24 HEARING OFFICER ORTH: All right. Thank you very 25 much. It is a few minutes after 5 and we're supposed to	603 1 particular time slot and ended up having a conflict, all 2 you need do is to reach out again and I'd be happy to take 3 you; although, now I see I have new call-in users. Let me 4 check on the call-in users in the event Ms. Doyle is among 5 them. 6 Who is call-in user number 23, please? Hello. 7 Can you hear me call-in user 23? No. Okay. Who is 8 call-in user 25? Can you hear me? I'm not getting 9 anything from call-in user 25. All right. Sorry. I am 10 looking for now Debbie Stevens. It takes just a moment to 11 scroll through the names. No, I don't have Debbie 12 Stevens. Matthew Allen. Let me look for Matthew Allen. 13 No, I don't see Matthew Allen. 14 Vanessa Fields. I did see Vanessa Fields a 15 little bit ago. Vanessa Fields. Ms. Fields, can you hear 16 me? 17 MS. FIELDS: Yes, ma'am. 18 HEARING OFFICER ORTH: Good. I can hear you. 19 Testimony and comment is taken under oath, if you would 20 raise your right hand. Do you swear or affirm that what 21 you're about to say will be the truth? 22 MS. FIELDS: Yes, Madam. 23 HEARING OFFICER ORTH: Thank you very much. I 24 will start your five minutes now. 25 VANESSA FIELDS,
602 1 have a 5:00 public comment session. Would Mr. Povijua be 2 able to hang in there for a little bit while I take about 3 four public commenters? 4 MR. POVIJUA: Yes, Madam Hearing Officer. 5 HEARING OFFICER ORTH: You can do that? 6 MR. POVIJUA: Yes. 7 HEARING OFFICER ORTH: Thank you very much. All 8 right. We have reached the 5 p.m. public comment session 9 on day two of the hearing in EIB 21-27. Public comment is 10 accepted with audio, not video, and is limited to five 11 minutes. 12 Anyone on the platform can say that they would 13 like to offer public comment, although, you only offer it 14 once. If you sent an email to Pam Jones, I am about to 15 read your name. And if you did not, please just reach out 16 in the Chat. Chat is enabled for everyone. And if you, 17 for some reason, struggle with the Chat function, please 18 call or text Pam at (505) 660-4305. 19 These are -- this is the order in which I'll be 20 calling on the public commenters that I know about right 21 now: Theresa Doyle, Debbie Stevens, Matthew Allen, 22 Vanessa Fields. Theresa Doyle, what I do is I unmute you 23 when I find you among the attendees. All right. I do not 24 see Theresa Doyle among the attendees. Let me look for 25 Debbie Stevens. By the way, if anyone signed up for a	604 1 having been first duly sworn or affirmed, 2 gave public comment as follows: 3 PUBLIC COMMENT OF VANESSA FIELDS 4 MS. FIELDS: Good afternoon, everybody. My name 5 is Vanessa Fields; I'm a regulatory manager for an 6 independent consulting firm in the San Juan Basin, as well 7 as I have environmental experience on the operator, and as 8 a regulatory oversight authority in the State of New 9 Mexico. 10 My opposition to the methane rule is that, I'm 11 currently serving multiple small operators in the San Juan 12 Basin. Clearly, in the last -- between 2011 and 2016, 13 according to the EPA, the San Juan Basin has fallen by 47 14 percent in reductions of VOCs. And within that encompass 15 of District 3, consists of Sandoval, San Juan, Rio Arriba 16 and McKinley Counties. 17 Currently in the San Juan Basin District 3, which 18 would be, there is 286 operators. Out of the 286 19 operators there are 252 small operators that would operate 20 stripper wells in our basin. The methane rule currently 21 would be detrimental to the livelihood of these operators. 22 And running some statistics, that we have done some 23 independent studies, most of these stripper wells that 24 contain average of -- that make about six barrels of oil a 25 day and 30 MCF, the total VOCs each year is less than 1

605 1 percent, demonstrating that they are not contributing to 2 the methane in the San Juan Basin. 3 Furthermore, I would like to say that with the 4 economics in the San Juan Basin, with being a regulator 5 and in the industry side, when this type of oversight is 6 seen, it would be detrimental to the small operators and 7 force them out of business, which then would create a huge 8 plug-in liability for the San Juan Basin. 9 With that said, I am not quite sure -- the 10 operators here in the San Juan Basin and across the state 11 are already following 0000 regulations that are far above 12 the standards of what the methane rule would require and, 13 therefore, the strenuous requirements of the methane rule 14 would be detrimental to these operators. 15 HEARING OFFICER ORTH: Is that the end of your 16 statement, Ms. Fields? 17 MS. FIELDS: Yes, ma'am. 18 HEARING OFFICER ORTH: Thank you very much. 19 MS. FIELDS: Thank you. I appreciate your time. 20 HEARING OFFICER ORTH: Thank you. All right. 21 We'll go to Ms. Pinto. I saw her up here. Okay. 22 Ms. Pinto, can you hear me? 23 MS. PINTO: Yes, I can. 24 HEARING OFFICER ORTH: You're going to have to 25 speak up, you're very soft.	607 1 Every day I find myself wondering what the air 2 will smell like. Will I have to change the direction of 3 my hike due to a gaseous odor? Questions such as these 4 are common for folks like myself who enjoy the outdoors. 5 For a few years now, I've been tagging along with 6 Earthworks, as they use a forward-looking infrared camera 7 in the Lybrook oilfield. Finding leaking and venting 8 emissions with this specialized camera has been horrific, 9 to say the least. 10 Recently, I was out in Northern New Mexico with a 11 fellow certified thermographer and we found sources of 12 leaking methane emissions from several oil and gas 13 wellsites that have a Bureau of Land Management lease. 14 The odors we encountered that day were pretty strong and 15 caused some headaches, a given when around that type of 16 industrial equipment. 17 If the sites and odors are of concern, I will 18 then file a complaint with NMED. Living among the San 19 Juan Basin poses more problems than the economic value it 20 creates. Creating environmental waste and then failing to 21 minimize and/or stop leaking and venting methane emissions 22 is irresponsible. 23 I've done air sampling in and around my 24 community. I can share firsthand that the VOCs in this 25 question are questionable and should not continue, nor
606 1 MS. PINTO: I'm here, yes. 2 HEARING OFFICER ORTH: Okay. Good. If you would 3 please raise your right hand. Do you swear or affirm to 4 tell the truth? 5 MS. PINTO: Yes. 6 HEARING OFFICER ORTH: All right. I will start 7 your five minutes right now. 8 KENDRA PINTO, 9 having been first duly sworn or affirmed, 10 gave public comment as follows: 11 PUBLIC COMMENT OF KENDRA PINTO 12 MS. PINTO: Yeah. My name is Kendra Pinto and I 13 live on the eastern agency of the Navajo Nation within Rio 14 Arriba county near a small town called Counselor. I 15 support rules that will increase inspections on finding 16 and fixing leaks, while decreasing the threat to the air 17 from oil and gas sites located close to residential areas 18 and schools. 19 Right now, I am surrounded by oil rigs placed 20 near the Lybrook Badlands, which repeatedly lit flares 21 that are especially visible at night, leading to increased 22 light popu -- pollution. Excuse me. The concerns for the 23 environment and air quality surrounding me and my family 24 needs to and should be considered while the rule is due 25 for an overhaul.	608 1 should it have ever been allowed. With every site 2 drilled, flared and produced, I am quite literally 3 breathing in toxic air on a daily basis. It's been up to 4 folks like myself on the ground, to monitor our own air 5 quality and report it directly to the community members. 6 Daily exposure to higher levels of VOCs, such as hydrogen 7 sulfide, should alarm any agency responsible for the 8 safety and well-being of individuals who are living with 9 that threat. Frequent inspections is one way to address 10 this problem. 11 The notion that the industry cannot pay for its 12 own repairs is unbelievable, when millions of gallons of 13 resources are currently being extracted near and under my 14 home at this very moment. Whatever decisions come from 15 this hearing, I will be directly affected by it. 16 Thank you for this time and I look forward to a 17 rule that will protect the air, water and environment that 18 I heavily rely on, like so many others. Thank you. 19 HEARING OFFICER ORTH: Thank you, Ms. Pinto. 20 I have no one else reaching out through Chat so we can 21 return to the technical case. 22 Mr. Povijua, if you would rejoin us, please. 23 MR. POVIJUA: Yes, I'm here. 24 HEARING OFFICER ORTH: All right. And 25 Mr. Jaynes?

609 1 MR. JAYNES: I'm here as well. 2 HEARING OFFICER ORTH: All right. Thank you. So 3 it's time for questions. Let me start with Ms. Katz. 4 MS. KATZ: I have no questions, Madam Hearing 5 Officer. 6 HEARING OFFICER ORTH: All right. Thank you. 7 Ms. Fox? 8 MS. FOX: No questions, Madam Hearing Officer. 9 Thank you. 10 HEARING OFFICER ORTH: All right. Let's see 11 here. Mr. Nykiel? 12 MR. NYKIEL: No questions. Thank you. 13 HEARING OFFICER ORTH: Thank you. Mr. de 14 Saillan? 15 MR. DE SAILLAN: I have no questions, Madam 16 Hearing Officer, thank you. But I do want to thank 17 Mr. Povijua for his testimony and it's really great to see 18 law students participating in this, so thank you. 19 HEARING OFFICER ORTH: Mr. Hiser? 20 MR. HISER: No questions. Thank you. 21 HEARING OFFICER ORTH: Thank you. Mr. Rose? 22 MR. ROSE: No questions. 23 HEARING OFFICER ORTH: Mr. Janoe? 24 MR. JANOE: No questions, Madam Hearing Officer. 25 HEARING OFFICER ORTH: All right. Thank you.	611 1 communities have been engaged in this rulemaking process? 2 MR. POVIJUA: Madam Chair, thank you for the 3 question. Unfortunately, I can't speak to that. I'm not 4 aware what the tribes are doing. 5 CHAIRPERSON SUINA: Thank you for that. And 6 furthermore, I know tribes have a unique status, but as 7 well as some of the tribal community members through your 8 organization, have they been engaged either through your 9 organization or NAVA? 10 MR. POVIJUA: Yes, Madam Chair, they have. And 11 speaking to tribal engagement, what I can say is that each 12 one of the sovereign nations within the State of New 13 Mexico and those within the counties affected -- that 14 would be affected by these rules, have robust governments 15 and do have the capability of engaging in these rules. 16 CHAIRPERSON SUINA: And thank you for that. 17 Those are all the questions I have for right now 18 HEARING OFFICER ORTH: Thank you. Vice-Chair 19 Trujillo-Davis. 20 VICE-CHAIR TRUJILLO-DAVIS: I don't have any 21 questions. I'd just like to thank Mr. Povijua for his 22 testimony and for being with us today 23 HEARING OFFICER ORTH: Thank you. Member Cates? 24 BOARD MEMBER CATES: Yeah. Same here, I thank 25 you, sir, for the clarity, the forcefulness and
610 1 Mr. Butzier? 2 MR. BUTZIER: I have no questions, Madam Hearing 3 Officer. 4 HEARING OFFICER ORTH: All right. Ms. Gutierrez? 5 MS. GUTIERREZ: No questions. Thank you. 6 HEARING OFFICER ORTH: All right. Thank you. 7 Mr. Colclasure? 8 MR. COLCLASURE: No questions, Madam Hearing 9 Officer. 10 HEARING OFFICER ORTH: All right. And 11 Ms. Witherspoon? 12 MS. WITHERSPOON: No questions. 13 HEARING OFFICER ORTH: All right. Thank you. 14 I'm going to turn to the Board members now in the event 15 they have questions. While I'm doing that, if you are an 16 attendee rather than a panelist and have a question, 17 please reach out on Chat. 18 EXAMINATION BY THE BOARD OF WARREN JAMES POVIJUA 19 HEARING OFFICER ORTH: Madam Chair, do you have a 20 question of Mr. Povijua? 21 CHAIRPERSON SUINA: Yes, Madam Hearing Officer, 22 thank you for that. And thank you, Mr. Povijua, for your 23 testimony. I just have a question -- a real quick 24 question. So in your work on policy and engagement in 25 underrepresented communities, do you know if the tribal	612 1 directness. I appreciate it. It helps broaden our 2 perspectives. Thank you. 3 HEARING OFFICER ORTH: Thank you. Member Bitzer? 4 BOARD MEMBER BITZER: No questions. Thank you. 5 MADAM HEARING OFFICER: Thank you. Member 6 Garcia? 7 BOARD MEMBER GARCIA: No questions. Thank you. 8 HEARING OFFICER ORTH: Thank you. And Member 9 Honker? 10 BOARD MEMBER HONKER: No questions. Thank you. 11 HEARING OFFICER ORTH: All right. And is there 12 any follow-up? Oh, Miss -- Madam Chair, are you 13 indicating? 14 CHAIRPERSON SUINA: Yeah. Yeah. Sorry, I wasn't 15 fast enough on my Chat, Madam Hearing Officer. I just had 16 one more question for Mr. Povijua. Thank you. In terms 17 of the proximity proposal of 1000 feet, that you spoke 18 about, is -- do you feel that there is also data to 19 support this amendment -- proposed amendment? 20 MR. POVIJUA: Madam Chair, thank you for the 21 question. I would in this case not be able to answer that 22 question at the moment, but I would defer to my legal 23 representative. 24 MR. JAYNES: Madam Hearing Officer, we would 25 point to our prefiled testimony, and my references come

613 1 from that. 2 HEARING OFFICER ORTH: All right. Thank you. 3 CHAIRPERSON SUINA: Thank you. 4 HEARING OFFICER ORTH: And you will also have a 5 chance after we've completed the record to make whatever 6 arguments you would like to make, based on the law and the 7 evidence at that time. So thank you for that. 8 Madam Chair, do you have other questions of 9 Mr. Povijua? 10 CHAIRPERSON SUINA: Not at this time, Madam 11 Hearing Officer. Thank you so much. 12 HEARING OFFICER ORTH: Thank you. And 13 Mr. Jaynes, is there any follow-up? 14 MR. JAYNES: No. Thank you, Madam Hearing 15 Officer and members. 16 HEARING OFFICER ORTH: Thank you so much. Thank 17 you, Mr. Povijua, for your testimony. 18 Let me ask at this point, I did make -- let's 19 see -- Joseph Hernandez a panelist. Is that who we're 20 going to hear from next? 21 PROFESSOR PACYNIAC: Madam Hearing Officer, 22 co-counsel is prepared to put on Mr. Hernandez; however, 23 unfortunately, he had to leave expecting the hearing to 24 conclude shortly after 5. Is it possible to put on 25 Mr. Hernandez tomorrow?	615 1 available broadly on Thursday and Friday. 2 HEARING OFFICER ORTH: Terrific. I'm happy to 3 hear from him at another time. 4 PROFESSOR PACYNIAC: Thank you for accommodating 5 us. 6 HEARING OFFICER ORTH: Yes, of course. Thank you 7 Professor Pacyniak and Mr. Jaynes. 8 Ms. Katz, is there anything else we can do this 9 afternoon? 10 MS. KATZ: We could -- let's see. I guess we 11 could try to get to -- I don't know if Mr. Smitherman is 12 available. I'm just looking at topics. So, Ms. Kuehn has 13 topics 11 through 20 combined into one presentation 14 because those are all -- I mean, aside from the scope and 15 the statutority authority, there's nothing -- these other 16 ones are just very incredibly brief. But I don't know, as 17 far as if scope -- how long scope and statutory authority 18 are going to take if NMOGA wants -- you know, if we have 19 significant discussion around those. 20 Some of it's been addressed through other 21 testimony. So I guess maybe we could ask Mr. Hiser. 22 MADAM HEARING OFFICER: All right. I do see 23 Mr. Hiser. 24 MR. HISER: I'm very much -- 25 HEARING OFFICER ORTH: I'm sorry.
614 1 HEARING OFFICER ORTH: So it's certainly possible 2 to put on Mr. Hernandez tomorrow if we don't have him this 3 evening. I like to push it just a little closer to 6, 4 typically because we don't take a dinner break. But the 5 caveat there is that we really need to begin with the 6 economic stuff first thing in the morning because of the 7 London-calling witness and -- but I'd be happy to hear 8 from Mr. Hernandez after -- after we've handled that. 9 PROFESSOR PACYNIAC: Understood. And I 10 apologize, I do believe Mr. Hernandez has some conflicts 11 tomorrow and -- but we understand that it's the economic 12 modeling was supposed to go first. And I'm sorry my 13 co-counsel had to leave and we didn't quite understand 14 that the hearing might go closer to 6. And tomorrow, I'm 15 sorry, I'm just looking at this. 16 MS. KATZ: It does say that Mr. Hernandez -- it 17 says that Mr. Hernandez is not available tomorrow after 18 noon. 19 HEARING OFFICER ORTH: Okay. So I'm certain we 20 can work this out somehow. And I'm not sure what 21 Mr. Hernandez's availability would be, for example, the 22 next day. 23 PROFESSOR PACYNIAC: He's broadly available 24 after -- those -- those were the main two periods of 25 unavailability, September 22nd after noon. I believe he's	616 1 MR. HISER: Madam Hearing Officer, we were not 2 planning to really put on anything on statutory authority. 3 We do have a little bit on scope which we could follow 4 whatever Ms. Kuehn said. 5 HEARING OFFICER ORTH: Okay. And I do see 6 Mr. Smitherman among the attendees and so I would be 7 pretty sure he can -- he can listen while Ms. Kuehn would 8 be testifying, if we could just get a little bit more in 9 today. 10 MR. HISER: Let me try to make sure that he is 11 paying attention as opposed to talking to my co-counsel. 12 HEARING OFFICER ORTH: All right. 13 MR. HISER: So I have spoken with Mr. Smitherman, 14 he will get on, but I think we are responding to Ms. Kuehn 15 on this issue. 16 HEARING OFFICER ORTH: That's right. I made 17 Ms. Kuehn a panelist. 18 Will you join us, please, Ms. Kuehn. 19 MS. KATZ: I actually just messaged her and I 20 don't -- she may -- let me -- 21 MS. BISBEY-KUEHN: Yes, I'm on. Thank you. It 22 just took a little for the video to start. 23 HEARING OFFICER: All right. Ms. Kuehn, you are 24 still under oath. I am just trying to eke out a little 25 bit more today, with an eye to assuring that we finish by

617 1 next Friday. That's all. 2 Ms. Katz, go ahead. 3 MS. KATZ: Thank you, Madam Hearing Officer. And 4 I am just trying to pull up -- so this testimony is going 5 to be related to NMED Exhibit 32 and there's a table of 6 contents because it's a very long exhibit -- it's very 7 long testimony. And these issues are going to be on pages 8 11 through -- through 6. Yes, I think. I believe that's 9 correct. 10 ELIZABETH BISBEY-KUEHN, 11 having been previously duly sworn, was examined and 12 testified as follows: 13 REBUTTAL DIRECT EXAMINATION OF ELIZABETH BISBEY-KUEHN 14 BY MS. KATZ: 15 Q. Okay. Ms. Kuehn, you've testified previously 16 regarding your educational and professional 17 qualifications, correct? 18 A. Correct. 19 Q. Have you submitted prefiled direct and rebuttal 20 testimony regarding the provisions of the rule in this 21 proceeding? 22 A. Yes. 23 Q. And your full written, direct testimony appears 24 as NMED Exhibit 32? 25 A. Yes.	619 1 A. That's okay. Yeah, if I could have permission to 2 share. 3 Q. Okay. 4 A. Thank you. 5 Q. Can you please discuss what is addressed in 6 Section 20.2.50.1 of the proposed rule, which I believe is 7 the next slide? 8 A. Yeah. I'm sorry, I'm having trouble advancing 9 the slide. 10 Q. I think you might want to -- I think you're 11 opening it in Teams and I think you might want to open it 12 in PowerPoint. 13 A. I apologize. This is going to take a minute 14 because I wasn't prepared to present this testimony. 15 Section 20.2.50.1 establishes the issuing agency, 16 and the Board is the issuing agency pursuant to the Air 17 Quality Control Act. This section is required by the 18 administrator -- by the administrative law division of the 19 state records center and identifies the issuing agency of 20 the proposed regulation. NMED received no comments on 21 this. 22 Q. Okay. Thank you. Can you explain the revisions 23 that the Department made to the scope section at 24 20.2.50.2, based on comments from the other parties? Or 25 first describe the scope section. Sorry.
618 1 Q. Do you have any changes to your written direct 2 testimony? 3 A. I don't. 4 Q. I believe we do have some changes. Sorry. I 5 believe we had repeated the definition section in that 6 testimony; is that correct? 7 A. That's correct. And I thought we were going to 8 address that when we went through the definitions. 9 Q. Oh, okay. Sorry. We're just addressing it now 10 because I'm introducing that exhibit. Perhaps we can give 11 the specific page numbers on that when we get to the 12 definition section. 13 A. Yes. 14 Q. Your -- and your full written rebuttal testimony 15 appears as NMED Rebuttal Exhibit 1? 16 A. Yes. 17 Q. And do you have any changes to your written 18 rebuttal testimony? 19 A. I don't. 20 Q. And do you adopt your written direct and rebuttal 21 testimony here today? 22 A. Yes. 23 Q. Ms. Kuehn, what is addressed in section -- oh, do 24 you want to pull up your -- do we have a PowerPoint for 25 this? Sorry.	620 1 A. That's okay. Yeah. So Section 20.2.50.2 2 describes the areas of the state that are subject to or 3 may become subject to Part 50. And authority for Part 50 4 is within the Air Quality Control Act, as we all have 5 spoken about, which requires the Board to adopt a plan, 6 including regulations to address ozone concentrations in 7 areas of the state that cause or contribute to ambient 8 ozone concentrations that exceed 95 percent of the 9 standard. 10 Q. Okay. And can you explain the revisions the 11 Department made to that section based on comments from the 12 other parties? 13 A. Yes. I can. So we received numerous comments 14 from parties regarding the scope as filed in our May 2021 15 version of the rule -- or the July 21 version of the rule. 16 And those comments included clarifying the process by 17 which new areas should be incorporated into the rule; 18 adding a process by which areas of the state should fall 19 below 95 percent of the ozone standard; how they are 20 removed from the rule's jurisdiction; requests to delete 21 the reference to the 95 percent of the ozone NAAQS, 22 request to delete the requirement that applicability is 23 revocable unless the source obtains an air quality permit 24 to limit their emissions; requesting to add actual 25 counties to the scope; deleting the terms cause or

621 1 contribute. And as a result, we've made significant edits 2 that we believe addresses all of the parties concerns and 3 comments. 4 The current proposal outlines the counties -- or 5 specifically identifies the counties that are subject to 6 Part 50. It includes a process and timeline for the 7 Department to petition the EIB to incorporate those new 8 areas. It clarifies that when a source becomes subject, 9 that the source will remain subject unless it obtains an 10 air permit with federally enforceable emission limits, to 11 lower their emissions to below the threshold, in the rule, 12 or below specific applicability sections of the rule. 13 Q. And do you -- do you have a -- did you have a 14 redline on that? 15 A. I -- I do. And I'm sorry that the slide is so 16 busy, but it describes the new requirement as outlined in 17 our draft proposal. So it specifically addresses the 18 requests to add a process by which new areas can be 19 incorporated under the rule. That's identified in A 1 and 20 establishes that the notice of proposed rulemaking shall 21 be published no less than 180 days before the sources in 22 the affected areas will become subject. And that the 23 proposed rulemaking shall forward -- shall follow the 24 Board's rulemaking procedures at 20.1.1.301 NMAC. And 25 requires the Department to list areas of -- those areas of	623 1 Q. Okay. And -- excuse me. Can you describe 2 sections 20.2.50.4 through 6 and the revisions to those 3 sections? 4 A. Sure. So these cover duration effective date and 5 objective. We did make changes to the rule to address 6 those -- the comments that we received; specifically in 7 the effective date. We updated the date to 2022. We 8 added the term "compression" within the objective section. 9 We did not agree to clarify the term natural gas 10 transmission in the objective section, but we don't object 11 to its inclusion. 12 Q. Okay. Do you want to -- can you move to the next 13 slide? There you go. Okay. So this shows our changes to 14 those sections, correct? 15 A. Yes. This slide shows the changes that I just 16 described. 17 Q. Okay. And then, can you discuss Sections 18 20.2.50.8 through 12, as the required sections? 19 A. Yes. These are all required sections under the 20 New Mexico State's Records Act. And so we did not receive 21 any specific comments on this section. 22 Q. Okay. Thank you. 23 A. Sure. Thank you. 24 MS. KATZ: That's all the questions we have on 25 that topic.
622 1 the state that the Department proposes to incorporate into 2 this part, and the date upon which those sources and the 3 areas will become subject. 4 And the proposal will also include proposed 5 implementation dates, which is important, as we're 6 bringing new sources under the -- under Part 50. We need 7 to identify what those implementation dates would be. So 8 we are in general agreement with those -- with those 9 requests. 10 We also added a requirement that the rulemaking 11 pursuant to this section shall be limited to consideration 12 of only those proposed changes. And we also added a 13 requirement if a source becomes subject to the Part 14 upon -- based upon its potential to emit, all requirements 15 of the Part that apply to the source are effective unless 16 the source obtains a permit to limit its emissions to 17 below those applicability thresholds either in the Part or 18 in the specific subsections of applicability. 19 Q. Okay. Thank you. So do you want to move to 20 Section 20.2.50.3? 21 A. Sure. Yeah, this section specifically identifies 22 the statute that provides the authority for Part 50. As I 23 mentioned, it's under -- found in the enabling statute in 24 the Air Quality Control Act. And we received no comments 25 on that section.	624 1 HEARING OFFICER ORTH: Okay. Let me ask if there 2 will be questions from the others. Ms. Fox? 3 MS. FOX: None, Madam Hearing Officer. Thank 4 you. 5 HEARING OFFICER ORTH: Thank you. Let's see. 6 Mr. Jaynes or Professor Pacyniak? 7 MR. JAYNES: We have no questions, Madam Hearing 8 Officer. 9 HEARING OFFICER ORTH: Thank you. Mr. Nykiel? 10 MR. NYKIEL: No questions. Thank you. 11 HEARING OFFICER ORTH: All right. Mr. De 12 Saillan? 13 MR. DE SAILLAN: No questions. Thank you. 14 HEARING OFFICER ORTH: Thank you. Mr. Hiser? 15 MR. HISER: I do have a question, Madam Hearing 16 Officer. 17 REBUTTAL CROSS-EXAMINATION OF ELIZABETH BISBEY-KUEHN 18 BY MR. HISER: 19 Q. Ms. Kuehn, I was wondering if you could put back 20 up the -- I can't remember exactly the number, but I think 21 it's 20.2.50.8. It was the comment that you received 22 about natural gas transmission that you said you didn't 23 have an objection to. And maybe -- there we go. I think 24 it was in the objective maybe. Let's see. Where is it? 25 Yeah, objective.

625 1 Was the purpose of that comment, as you 2 understand it, to try to clarify the -- on the oil side as 3 opposed to the natural gas side, that the scope of this 4 was not meant to include oil that was in the pipeline? 5 The transmission pipeline. Let me be clear. 6 A. I'm not understanding the question. I'm sorry. 7 Q. Oh. I was asking if you -- if you understood 8 what the purpose of the addition of natural gas from a 9 transmission would be? 10 A. Yes, I agree. 11 Q. That was my only question. I guess I should ask 12 a second one. I'm sorry, Madam Hearing Officer. 13 Do you agree that you're not trying to cover oil 14 transmission pipelines in the coverage of this rule at the 15 present time? 16 A. We are not trying to include oil transmission 17 pipelines under the coverage of the rule. 18 MR. HISER: Okay. Thank you. Appreciate it. 19 HEARING OFFICER ORTH: Thank you. Mr. Rose? 20 MR. ROSE: No questions, Madam Hearing Officer. 21 HEARING OFFICER ORTH: All right. Mr. Janoe? 22 MR. JANOE: No questions. 23 HEARING OFFICER ORTH: Thank you. Mr. Butzier? 24 MR. BUTZIER: No questions. And thank you, Madam 25 Hearing Officer, for continuing to make progress this	627 1 HEARING OFFICER ORTH: Thank you. Member Bitzer? 2 BOARD MEMBER BITZER: No questions. Thank you. 3 HEARING OFFICER ORTH: Thank you. Member Garcia? 4 BOARD MEMBER GARCIA: No questions. Thank you. 5 HEARING OFFICER ORTH: Thank you. And Member 6 Honker? 7 BOARD MEMBER HONKER: I have no questions. 8 HEARING OFFICER ORTH: Thank you. I don't 9 imagine the question from Mr. Hiser prompted any redirect, 10 Ms. Katz, but if I'm wrong, let me know. 11 MS. KATZ: No redirect. Thanks. 12 HEARING OFFICER ORTH: All right. Thank you very 13 much, Ms. Kuehn. I feel better about making a little bit 14 more use of the day. And I don't imagine we have anything 15 we could do, you know, in ten minutes, so -- unless you 16 have an idea. 17 MS. KATZ: Well, I believe Mr. Smitherman was on 18 this -- was going to testify on this topic. 19 HEARING OFFICER ORTH: On this topic. Okay. 20 Good. So do we have Mr. Smitherman with us, Mr. Hiser? 21 MR. HISER: We do. 22 HEARING OFFICER ORTH: Terrific. Mr. Smitherman, 23 if you can join us. Oh, I need to make you a panelist 24 first. There you are. 25 Mr. Smitherman, if you would please raise your
626 1 evening. 2 HEARING OFFICER ORTH: Ms. Gutierrez? 3 MS. GUTIERREZ: No questions, Madam Hearing 4 Officer. 5 HEARING OFFICER ORTH: Thank you. 6 Mr. Colclasure? 7 MR. COLCLASURE: No questions. Thank you. 8 HEARING OFFICER ORTH: And I don't know if we 9 have Ms. Witherspoon. 10 All right. We're going to turn to the Board 11 members in the event they have questions. While I'm doing 12 that, if you are an attendee with a question, please reach 13 out through the Chat or by reaching out to Pam Jones at 14 (505) 660-4305. 15 Madam Chair, do you have questions of Ms. Kuehn 16 on this topic? 17 CHAIRPERSON SUINA: Madam Hearing Officer, I 18 don't have any questions at this time. Thank you. 19 HEARING OFFICER ORTH: Thank you. Vice-Chair 20 Trujillo-Davis? 21 VICE-CHAIR TRUJILLO-DAVIS: I do not have any 22 questions at this time. Thank you. 23 HEARING OFFICER ORTH: Thank you. Member Cates? 24 BOARD MEMBER CATES: No questions. Appreciate 25 the testimony.	628 1 right hand. Do you swear or affirm to tell the truth? 2 MR. SMITHERMAN: I do. 3 HEARING OFFICER ORTH: Thank you very much. Your 4 voice is coming out loud and clear. Go ahead, Mr. Hiser. 5 JOHN SMITHERMAN, 6 having been first duly sworn or affirmed, was examined 7 and testified as follows: 8 DIRECT EXAMINATION OF JOHN SMITHERMAN 9 BY MR. HISER: 10 Q. Mr. Smitherman, can you please state your name 11 for the record and spell it for the court reporter? 12 A. Certainly. John Smitherman, J-O-H-N, 13 S-M-I-T-H-E-R-M-A-N. 14 Q. Can you discuss what your involvement is in this 15 proceeding? 16 A. Certainly. I am currently a senior adviser to 17 the New Mexico Oil and Gas Association. I mostly deal 18 with regulatory matters and I have been instrumental in 19 coordinating NMOGA's efforts to respond to this 20 rulemaking. 21 Q. Is NMOGA Exhibit No. 29 an accurate copy of your 22 resume? 23 A. It is. 24 Q. Can you please state your qualifications and 25 background as they relate to your participation in this

629 1 hearing? 2 A. Certainly. Would it be acceptable to share my 3 screen? 4 Q. I see the Hearing Officer is working her magic. 5 A. Of course that assumes that I can successfully 6 share my screen once given permission. 7 Q. She believes that you should be able to click 8 share now. 9 A. Okay. Okay. 10 Q. We can now see your -- we are seeing your 11 background. 12 A. Lovely. Thank you very much. I'm a petroleum 13 engineer. I earned a Bachelors in Engineering degree in 14 1980. And I worked for an oil and gas upstream 15 exploration and production company for, roughly, 40 years; 16 mostly in operational roles: production engineer, did a 17 little reservoir engineering, but worked up through 18 operational engineering, operations management, general 19 management and executive management, all with the focus of 20 operations and operations data management. 21 So I bring that experience to the table, if you 22 will. I kind of know, in essence, how things work. I've 23 got extensive experience in Southeast New Mexico. Our 24 company had very, very large acreage position in that part 25 of the state.	631 1 More importantly, what I'd like to touch on -- 2 and I'm glad Ms. Kuehn has mentioned this already, is that 3 there needs to be a process in the future if areas or 4 counties are added to this rule, that somehow they meet a 5 criteria in the future, and are added to the rule, that 6 there needs to be a public process to understand that 7 the -- to give the public an opportunity to challenge and 8 understand how those criteria have been met, and that 9 adding those counties is, in fact, the appropriate thing 10 to do. 11 And perhaps more importantly to me, as a former 12 executive in an oil and gas company is, we need to have 13 time to transition. Just like this rule has today given 14 operators some time to transition from where we are today, 15 to comply with the rules that this -- this regulatory 16 process will eventually end up with, we need those same 17 considerations if another area is to be added in the 18 future. And I was very pleased to hear Ms. Kuehn say that 19 NMED supports both of those two concepts. 20 Q. Do you have anything else you'd like to add about 21 this or is NMOGA satisfied with the adopted change 22 language that Ms. Kuehn presented today? 23 A. To the degree I understood it properly, yes. In 24 fact, I think it sounded like that it is -- it conforms to 25 NMOGA's suggested redline, and perhaps that was responsive
630 1 Q. Thank you. Do NMOGA Exhibits A1 and 41 reflect 2 your direct and rebuttal technical testimony in this 3 matter? 4 A. Yes, they do. 5 Q. Do you wish to make any modifications to Exhibits 6 A1 or 41? 7 A. Not that I recall. 8 Q. And have you prepared a summary of your direct 9 and rebuttal testimony -- which is very short tonight, 10 because we're only talking about one little section? 11 A. It is. Thank goodness it's short. It's late 12 already. And I have. 13 Q. And do you adopt your written direct and rebuttal 14 testimony for purposes of this hearing, as your testimony? 15 A. Yes, I do. Thank you. 16 Q. Thank you. 17 What were the comments that you made concerning 18 the scope provision of 20.2.50.2 and what were the 19 concerns that you were trying to bring out? 20 A. Certainly. First of all, I'm assuming that the 21 counties that are going to be included in the scope of 22 this new Part are going to be Doña Ana, Eddy, Lea, 23 Sandoval, San Juan and Valencia. I'm not really going to 24 talk about the technical and legal bases for those. I'm 25 just stating that that's what I believe.	632 1 to our suggestion. 2 Q. At least everything except perhaps the county 3 list; is that correct? 4 A. Good point. 5 Q. Okay. Thank you. 6 MR. HISER: That completes the testimony of 7 Mr. Smitherman on the scope. 8 HEARING OFFICER ORTH: Thank you very much, 9 Mr. Hiser and Mr. Smitherman. 10 Ms. Katz, do you have any questions of 11 Mr. Smitherman? 12 MS. KATZ: I do not, Madam Hearing Officer. 13 HEARING OFFICER ORTH: All right. Ms. Fox? 14 MS. FOX: No, Madam Hearing Officer. Thank you. 15 HEARING OFFICER ORTH: Thank you. Let's see. 16 Mr. Jaynes or Professor Pacyniak? 17 MR. JAYNES: No questions, Madam Hearing Officer. 18 HEARING OFFICER ORTH: All right. Mr. Nykiel? 19 MR. NYKIEL: No, thank you. 20 HEARING OFFICER ORTH: All right. Mr. de 21 Saillan? 22 MR. DE SAILLAN: No questions. Thank you. 23 HEARING OFFICER ORTH: Thank you. Mr. Rose? 24 MR. ROSE: No objection to any -- I have nothing, 25 no questions. Excuse me, Madam Hearing Officer.

633 1 HEARING OFFICER ORTH: All right. Mr. Janoe? 2 MR. JANOE: No questions. 3 HEARING OFFICER ORTH: Thank you. Mr. Butzier? 4 MR. BUTZIER: No questions. Thank you. 5 HEARING OFFICER ORTH: Ms. Gutierrez? 6 MS. GUTIERREZ: No questions. Sorry, I couldn't 7 get to unmute. 8 HEARING OFFICER ORTH: All right. And 9 Mr. Colclasure? 10 MR. COLCLASURE: No questions, Madam Hearing 11 Officer. 12 HEARING OFFICER ORTH: All right. I'm going to 13 turn to the Board members to see if they have any 14 questions. In the meantime, if you are an attendee and 15 have a question of Mr. Smitherman, please reach out in the 16 Chat. 17 EXAMINATION BY THE BOARD OF JOHN SMITHERMAN 18 HEARING OFFICER ORTH: Madam Chair, do you have a 19 question of Mr. Smitherman? 20 CHAIRPERSON SUINA: Not at this time. Thank you, 21 Madam Hearing Officer. 22 HEARING OFFICER ORTH: Thank you. Vice-Chair 23 Trujillo-Davis? 24 VICE-CHAIR TRUJILLO-DAVIS: None at this time. 25 Thank you.	635 1 don't know if Mr. Rose wants to weigh in on whether 2 Mr. Davis is available and wants to put that testimony on 3 or if we need to delay that. 4 HEARING OFFICER ORTH: Let me see. 5 MR. ROSE: I would prefer to delay it. I haven't 6 talked to him about whether he's available to testify, so 7 I couldn't represent that he is, so... 8 HEARING OFFICER ORTH: All right. 9 MR. ROSE: But his testimony is pretty much 10 limited to the same extent Mr. Smitherman's is, so it 11 shouldn't take much time to finish. It's just I don't 12 know if he's available right now and prepared to do this. 13 HEARING OFFICER ORTH: Okay. Tell me his first 14 name. I'm not sure if he's an attendee or not. 15 MR. ROSE: He was signing on, Ryan Davis. 16 HEARING OFFICER ORTH: Yeah, Ryan Davis. I'll 17 make him a panelist right now. Mr. Davis, can you hear 18 me? 19 MR. DAVIS: Yes, I can hear you. Can you hear 20 me? 21 HEARING OFFICER ORTH: Yes. Would you be 22 prepared to go forward so we can bundle up this topic? 23 MR. DAVIS: Yes, Madam Hearing Officer. 24 HEARING OFFICER ORTH: Terrific. Do you have 25 slides?
634 1 HEARING OFFICER ORTH: Thank you. Member Cates? 2 BOARD MEMBER CATES: No questions. Thanks. 3 HEARING OFFICER ORTH: Thank you. Member Bitzer? 4 BOARD MEMBER BITZER: No questions. Thank you. 5 HEARING OFFICER ORTH: Thank you. Member Garcia? 6 BOARD MEMBER GARCIA: One quick question, please. 7 So, just so I understand, so that I'm clear, this 8 testimony you gave is basically saying that you proposed 9 some amendments to the rule, and the Department agreed to 10 those amendments; is that right? 11 MR. SMITHERMAN: Yes, it is. 12 BOARD MEMBER GARCIA: Okay. Thank you. That's 13 all. 14 MR. SMITHERMAN: Thank you. 15 HEARING OFFICER ORTH: All right. Member Honker? 16 MEMBER HONKER: No questions. 17 HEARING OFFICER ORTH: All right. Thank you all 18 very much. Mr. Hiser, are we completed then with 19 Mr. Smitherman this evening? 20 MR. HISER: We are completed with Mr. Smitherman 21 at the end of this evening. Thank you. 22 HEARING OFFICER ORTH: All right. Thank you very 23 much. I'm delighted we've snuck up on 6:00 there. 24 MS. KATZ: Madam Hearing Officer, Mr. Davis from 25 IPANM also had some testimony on this scope topic, and I	636 1 MR. DAVIS: I do not. 2 HEARING OFFICER ORTH: All right. If you would 3 please raise your right hand. Do you swear or affirm to 4 tell the truth? 5 MR. DAVIS: I do. 6 HEARING OFFICER ORTH: Thank you. Mr. Rose? 7 JEFFREY "RYAN" DAVIS, 8 having been first duly sworn or affirmed, was examined 9 and testified as follows: 10 DIRECT EXAMINATION OF JEFFREY RYAN DAVIS 11 BY MR. ROSE: 12 Q. Mr. Davis, could you please state your full name 13 for the record? 14 A. My name is Jeffrey Ryan Davis; I go by Ryan. 15 Q. And with whom are you employed? 16 A. I'm employed by Merrion Oil and Gas in 17 Farmington, New Mexico. 18 Q. And in what capacity are you employed? 19 A. I am the Operations Manager for Merrion. 20 Q. Could you give the Board a brief description of 21 your educational and work background? 22 A. Yes. I've got a Bachelor's of Science in 23 Mechanical Engineering from New Mexico Institute of Mining 24 and Technology. I have worked for Merrion since obtaining 25 my degree. I've worked for the company approximately 13

637 1 years. Worked as the production engineer initially and 2 worked my way up into operations management, where I 3 oversee all of our operated properties through the 4 Rockies, including New Mexico. 5 Q. And do you hold a position with IPANM? 6 A. I do. Well, I am currently the past president of 7 the Independent Petroleum Association of New Mexico. I 8 just recently handed that off at our annual meeting 9 earlier this month. 10 Q. And did you prepare written direct and rebuttal 11 testimony in this proceeding? 12 A. Yes, sir, I did. 13 Q. And if we were to ask you the questions in your 14 written -- prefiled written direct and rebuttal testimony, 15 would you give us the same answer under oath today that 16 you did in writing? 17 A. Yes, sir. 18 MR. ROSE: Madam Hearing Officer, we would 19 move -- it's IPANM Exhibits 2 -- and let me see. That's 20 his direct testimony and his rebuttal -- I'll find it 21 here. His rebuttal is Exhibit 10. I'd offer those into 22 evidence. 23 HEARING OFFICER ORTH: I don't remember 24 objections to IPANM exhibits, but I'll pause for a moment 25 in the event anyone would like to speak up.	639 1 Q. Just to clarify: Mr. Davis, I believe in your 2 direct testimony, at least in the redline that was 3 submitted with that testimony, you were proposing that 4 there be a process to remove counties from the rule. And 5 I -- and I'm just wondering if that is -- if you were 6 withdrawing that, or you're fine with just what the 7 Department has now proposed based on what NMOGA -- NMOGA's 8 revisions were? 9 A. Ms. Katz, I appreciate you bringing that up. You 10 know, that was definitely a concern. We did not see any 11 off ramp in the provisions, so that was something that we 12 had put forward. I think at this point we are comfortable 13 with -- with the revisions that the Department has put 14 forth. 15 MS. KATZ: Okay. Thank you very much, Mr. Davis. 16 HEARING OFFICER ORTH: Thank you. Ms. Fox, any 17 questions? 18 MS. FOX: No questions, Madam Hearing Officer. 19 Thank you. 20 HEARING OFFICER ORTH: Thank you. Mr. Jaynes or 21 Professor Pacyniak? 22 MR. JAYNES: No questions. Thank you. 23 HEARING OFFICER ORTH: Thank you. Mr. Nykiel? 24 MR. NYKIEL: No questions. Thank you. 25 HEARING OFFICER ORTH: Thank you. Mr. de
638 1 All right. The exhibits are admitted. 2 (IPANM Exhibit 2 and IPANM Rebuttal Exhibit 10 3 received into evidence at this time.) 4 Q. (BY MR. ROSE) Mr. Davis, did you hear the 5 testimony from NMED and from NMOGA with respect to the 6 scope provision? 7 A. Yes, I did. 8 Q. Okay. And could you -- does -- does the changes 9 that the Department proposed, do they -- are they 10 responsive to your comments in your direct and rebuttal 11 testimony? 12 A. Yes. I believe they address the majority of the 13 concerns that we put forward in direct testimony and 14 rebuttal. I would say, as NMOGA mentioned, the only 15 exception would be the inclusion of Chaves and Rio Arriba 16 Counties when they listed the counties applicable. 17 Q. Mr. Davis, I have no further questions. 18 MR. ROSE: Madam Hearing Officer, Mr. Davis is 19 available for cross-exam. 20 HEARING OFFICER ORTH: Thank you. Ms. Katz, do 21 you have any questions? 22 MS. KATZ: Thank you, Madam Hearing Officer. I 23 just have one question. 24 CROSS-EXAMINATION OF JEFFREY "RYAN" DAVIS 25 BY MS. KATZ:	640 1 Saillan? 2 MR. DE SAILLAN: No questions. Thank you. 3 HEARING OFFICER ORTH: Thank you. Mr. Hiser? 4 MR. CURTIS: This is Brandon Curtis. I have no 5 questions, Madam Hearing Officer. 6 HEARING OFFICER ORTH: Thank you. Mr. Janoe? 7 MR. JANOE: No questions. Thank you. 8 HEARING OFFICER ORTH: Thank you. Mr. Butzier? 9 MR. BUTZIER: No questions. Thank you. 10 HEARING OFFICER ORTH: Thank you. Ms. Gutierrez? 11 MS. GUTIERREZ: No questions. Thank you. 12 HEARING OFFICER ORTH: Thank you. 13 Mr. Colclasure? 14 MR. COLCLASURE: No questions, Madam Hearing 15 Officer. 16 HEARING OFFICER ORTH: All right. Thank you. 17 I'm going to turn to the Board in the event they have 18 questions. In the meantime, if you're an attendee and 19 have a question, please reach out through the Chat. 20 Madam Chair? 21 CHAIRPERSON SUINA: I have no questions at this 22 time, Madam Hearing Officer. Thank you. 23 HEARING OFFICER ORTH: Thank you. Vice-Chair 24 Trujillo-Davis? 25 VICE-CHAIR TRUJILLO-DAVIS: I have no questions

641 1 at this time. Thank you. 2 HEARING OFFICER ORTH: Thank you. Member Cates? 3 BOARD MEMBER CATES: No questions. Thanks for 4 the testimony. 5 HEARING OFFICER ORTH: Thank you. Member Bitzer? 6 BOARD MEMBER BITZER: No questions. Thank you. 7 HEARING OFFICER ORTH: Thank you. Member Garcia? 8 MEMBER GARCIA: No questions. Thank you. 9 HEARING OFFICER ORTH: Thank you. And Member 10 Honker? 11 BOARD MEMBER HONKER: No questions. Thank you. 12 HEARING OFFICER ORTH: Thank you very much, all 13 of you. I believe then, Mr. Rose, that there's no reason 14 not to thank Mr. Davis for his testimony and complete the 15 testimony for the day. 16 MR. ROSE: Madam Hearing Officer, we'll certainly 17 see Mr. Davis later, just not today. 18 HEARING OFFICER ORTH: All right. Thank you so 19 much. Thank you all. We'll adjourn for the evening and 20 we'll see you tomorrow morning at 9 when we will begin 21 with economic analysis testimony. Thank you. 22 MR. CURTIS: Madam Hearing Officer, can I ask one 23 quick question? This is Brandon Curtis on behalf of 24 NMOGA. Would be it possible to try and identify the 25 topics that are upcoming the next two days so we can	643 1 that's a big topic and so I would think if we're getting 2 to that and it's toward the end of the day, we're going to 3 want to bump that off until the following day. So, sorry, 4 I can't give any more on that. 5 HEARING OFFICER: All right. Well, thank you. 6 And Professor Pacyniak, if you -- oh, you 7 disappeared. I thought maybe you were on screen. If you 8 would just like to text me with Mr. Hernandez's 9 availability, that's fine. 10 PROFESSOR PACYNIK: Okay. Yes, I will do that. 11 Thank you very much. And I -- and I -- actually, I 12 confirmed with him that we apparently made an error in 13 providing his availability, so tomorrow he's actually 14 available in the afternoon and not available in the 15 morning, which I think might make it easier for him to be 16 able to fit the schedule tomorrow that you-all have 17 outlined. 18 HEARING OFFICER ORTH: All right. That's a good 19 fit. Thank you. 20 All right. Thank you, all. See you in the 21 morning. Good night. 22 (Proceedings concluded September 21st at 23 6:10 p.m.) 24 25
642 1 prepare our witnesses? 2 HEARING OFFICER ORTH: Ms. Katz, I think you're 3 the best person to answer that. 4 MS. KATZ: I can try to give my estimation, but 5 it's going to depend on how long these topics take. So I 6 think we shouldn't have a problem getting through the 7 economic -- the economic analysis tomorrow, the small 8 business facility definition and requirements. So those 9 are Topics 5 and 6. 10 Now we've been -- we'll be jumping down to -- and 11 then -- excuse me. So I think we will need to have, I 12 guess, was it Mr. Hernandez at some point tomorrow. We'll 13 need to have EDF's modeling witness, Ms. Thompson, provide 14 her rebuttal testimony on the model. And so, then we'll 15 have -- then we'll be on Topic 21, which is the 16 definitions; 22, which is the applicability of the rule. 17 So I guess it's hard to know how long the 18 economics and the small business facilities might take. 19 I'm expecting them to take at least all of the morning and 20 probably into some of the afternoon. And then the -- so, 21 you know, 21 and 22, you know, there are several witnesses 22 on those topics, both direct and rebuttal, so... But 23 those -- those seem foreseeable -- could come up. 24 Possibly Topic 23, 24. 25 When we're getting to engines, that Topic 24,	644 1 STATE OF NEW MEXICO 2 BEFORE THE NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD 3 PROPOSED ADOPTION OF RULE 21-27 NMAC 4 RULES HEARING 5 6 REPORTER'S CERTIFICATE 7 I, THERESA E. DUBOIS, RPR, CSR #29, DO HEREBY 8 CERTIFY that on September 21st, 2021, the Public Hearing 9 of the New Mexico Environmental Improvement Board was 10 taken before me, that I did report in stenographic 11 shorthand the Proceedings set forth herein, and the 12 foregoing pages are a true and correct transcription to 13 the best of my ability. 14 I FURTHER CERTIFY that I am neither employed by 15 nor related to nor contracted with (unless excepted by the 16 rules) any of the parties or attorneys in this matter, and 17 that I have no interest whatsoever in the final 18 disposition of this matter. 19  20 21 22 THERESA E. DUBOIS, RPR 23 New Mexico CCR #29 24 License Expires: 12/31/2021 25

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