

1615 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 9 10 TRANSCRIPT OF PROCEEDINGS 11 12 BE IT REMEMBERED that on the 27th day of 13 September, 2021, this matter came on for hearing before 14 FELICIA ORTH, Hearing Officer, virtually through Cisco 15 Webex Meetings video conferencing, at the hour of 9:00 16 a.m. 17 18 Volume 6 19 20 21 REPORTED BY: CHERYL ARREGUIN, RPR New Mexico CCR No. 21 22 Albuquerque Court Reporting Service, LLC 3150 Carlisle Boulevard, Northeast 23 Suite 104 Albuquerque, New Mexico 87110 24 (505) 806-1202 abqcrs@gmail.com 25	1617 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 BRANDON CURTIS 4 Jordan Hiser & Joy, PLC 5080 N. 40th Street 5 Suite 245 Phoenix, Arizona 85024 6 (480) 505-3900 ehiser@jhjlawyers.com 7 bcurtis@jhjlawyers.com 8 DALVA L. MOELLENBERG Gallagher & Kennedy, PA 9 1239 Paseo de Peralta Santa Fe, New Mexico 87501 10 (505) 982-9523 dlm@gknet.com 11 12 For Conservation Voters New Mexico, Dine C.A.R.E., Earthworks, Natural Resources Defense Council, San Juan 13 Citizens Alliance, Sierra Club, and 350 New Mexico ("Clean Air Advocates"): 14 15 TANNIS FOX Attorney at Law Western Environmental Law Center 16 409 East Palace Avenue #2 17 Santa Fe, New Mexico 87501 (505) 629-0732 fox@westernlaw.org 18 DAVID R. BAAKE Baake Law LLC 19 2131 North Main Street Las Cruces, New Mexico 88001 20 (575) 343-2782 david@baakelaw.com 21 22 23 24 25
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1 E X H I B I T S 2 ADMITTED 3 NOTE: No exhibits are attached physically to this transcript. They can be found online at 4 www.env.nm.gov/opf/docketed-matters/ 5 GAS COMPRESSOR ASSOCIATION: 6 GCA 35. Proposed amendment to 1799 20..2.50.113.C(4)(i) 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	1628 1 though you had spoken it. 2 I'll begin with Mr. Hampton. 3 Mr. Hampton, I'm unmuting you. 4 Can you hear me? 5 MR. HAMPTON: I can. Thank you. 6 HEARING OFFICER ORTH: Thank you. Your voice 7 is coming through nicely. 8 If you would, please spell your name. 9 MR. HAMPTON: David Hampton, D-A-V-I-D 10 H-A-M-P-T-O-N. 11 HEARING OFFICER ORTH: Thank you. 12 And raise your right hand. 13 Do you swear or affirm to tell the truth? 14 MR. HAMPTON: I do. 15 HEARING OFFICER ORTH: Thank you. 16 DAVID HAMPTON 17 having been first duly sworn or affirmed, gave 18 public comment as follows: 19 PUBLIC COMMENT 20 HEARING OFFICER ORTH: I'll start your five 21 minutes now. 22 MR. HAMPTON: Good morning. 23 My name is David Hampton. I live in White 24 Rock, New Mexico, in Los Alamos County. 25 While we all agree that appropriate safeguards

1631 1 should be put in place to limit ground level ozone 2 pollution, we must be careful not to harm the oil and 3 gas industry which provides so many jobs and generates 4 so much revenue for our state. 5 The currently proposed rule is excessive in 6 its application and must be revisited and revised. 7 There is no reason for New Mexico to apply standards 8 that are among the most stringent, if not the most 9 stringent in the nation. 10 I'd like to thank the Environment Improvement 11 Board for your service to our state and for allowing me 12 to speak today. 13 Have a good day. 14 Thank you. 15 HEARING OFFICER ORTH: Thank you, Mr. Hampton. 16 I'll move now to Mr. Coss. 17 I am not seeing Mr. Coss by name, but I do 18 have a call-in user. 19 Call-in User 3, I'm unmuting you. 20 Hello, Call-in User 3. Can you hear me? 21 MS. AMARIE: Hello? 22 HEARING OFFICER ORTH: All right. 23 Oh. Hello. Please identify yourself. 24 Who is this? 25 MS. AMARIE: Hi. This is Freyr Amarie.	1633 1 state home. 2 I support Governor Michelle Lujan Grisham's 3 call for a nation-leading oil and gas pollution rule. 4 To achieve this goal, the Environmental Improvement 5 Board must strengthen the New Mexico Environment 6 Department's proposed ozone precursor rule to protect 7 everyone in our state, especially those living closest 8 to development and enforce them stringently. Rural 9 communities, tribal communities, children and elderly 10 are especially at risk. 11 Setting strong rule at the state level sets a 12 good bar for forthcoming federal methane rule that can 13 help protect New Mexicans from states like Texas whose 14 regulations are limited. 15 Besides the strongest rules, I ask the EIB to 16 make three critical improvements to the proposed rule to 17 protect communities and address major sources of 18 pollution. 19 First, strengthen requirements to cut 20 pollution from pneumatic controllers that are used in 21 oil and gas production. NMED should require companies 22 to inspect pneumatics for leaks and accelerate the 23 timeline to retrofit equipment with zero bleed or zero 24 emission pneumatic controllers. 25 Second, the final rule must be strengthened to
1632 1 HEARING OFFICER ORTH: Oh, hello. Good 2 morning. 3 If you would please spell your name. 4 MS. AMARIE: It is F-R-E-Y-R A-M-A-R-I-E. 5 HEARING OFFICER ORTH: Thank you. 6 And raise your right hand. 7 Do you swear or affirm to tell the truth? 8 MS. AMARIE: Yes, I do. 9 HEARING OFFICER ORTH: Thank you. 10 FREYR AMARIE 11 having been first duly sworn or affirmed, gave 12 public comment as follows: 13 PUBLIC COMMENT 14 HEARING OFFICER ORTH: I'll start your five 15 minutes now. 16 MS. AMARIE: Hello. 17 My name is Freyr Amarie. I'm a resident of 18 Pojoaque Valley. 19 Thank you to the Environmental Improvement 20 Board for this opportunity to comment. 21 I am concerned for the future of New Mexicans 22 as a teacher and community member who also works in the 23 outdoors. Access to clean air and water has a direct 24 impact on the lives, livelihoods and land-based values 25 that inform the many cultures and people that call this	1634 1 ensure New Mexicans incorporate leading -- New Mexico 2 incorporates leading approaches to address pollution 3 during well completions. It should require operators to 4 capture or combust emissions during completions, 5 including the initial flowback stage. 6 Third, it is critically important that leak -- 7 the leak inspection program proposed by NMED in July be 8 adopted and that the final rule is strengthened to 9 protect frontline communities by requiring more frequent 10 inspections to find and fix leaks. Technology exists 11 today to control leaks, and operators need to be 12 accountable for the pollution they create. 13 Finally, I -- although I know these rules are 14 meant to reduce ground level smog and protect our 15 respiratory health, I also want to point out the 16 additional benefits of these rules to reducing methane, 17 which is a potent greenhouse gas, 84 more times powerful 18 than carbon dioxide in the near term. In fact, methane 19 pollution contributes to about 25 percent of global 20 warming we are experiencing today. 21 New Mexicans are already experiencing the 22 health impacts of these industries in addition to the 23 severe impacts of climate change, harming our health, 24 air, water, land and economy. Scientists, NASA and the 25 Department of Defense all agree that climate change is a

1635 1 threat to our kids' future, and we can no longer ignore 2 the increasingly strong and severe weather. These 3 conditions put even more strain on all communities, 4 especially the historically marginalized communities I 5 mentioned above. 6 Please protect our climate and our health. 7 Thank you. 8 HEARING OFFICER ORTH: Thank you very much. 9 I'm looking for Mr. Coss and don't see him on 10 the platform. 11 And I'm looking for Ms. Pena, and I don't see 12 her on the platform. 13 I'd be happy to accept their comment in the 14 event they join us at one of the other public comment 15 sessions. 16 We'll turn, then, back to the technical case. 17 Let's see here. 18 Over the weekend, we had some correspondence 19 with -- among counsel around suggestions to 20 (unintelligible and/or inaudible) to streamline or -- 21 THE REPORTER: Excuse me. I did not -- I 22 think you cut out, Ms. Orth. 23 HEARING OFFICER ORTH: I'm sorry. 24 I'm cutting out? 25 THE REPORTER: Yes. You did for me.	1637 1 Having said that, we are definitely facing a 2 daunting challenge to finish this by Friday, and I think 3 we're going to have to have another serious discussion 4 at the end of the day today after we have found how far 5 we're able to get today. 6 Let me ask if any of the counsel would like to 7 address this topic. Just turn on your screen, please. 8 Ms. Katz. 9 MS. KATZ: Thank you, Madam Hearing Officer. 10 Good morning, Madam Chair, Members of the 11 Board. 12 So I think the general sense on some 13 suggestions is that, as Ms. Orth said -- stated, I think 14 there's a consensus that there's certain smaller topics, 15 so there's -- there's -- the larger topics are engines, 16 leak detection and repair, pneumatics, and storage 17 vessels. 18 For the other smaller topics, the suggestion 19 is that the parties all put on their testimony, and 20 then -- and the Board hold their questions until the 21 end, and then everybody -- all the witnesses can sit as 22 a panel for questions, and I think that will just make 23 things go more smoothly. And those are smaller topics 24 so it shouldn't interfere too much with your ability to, 25 you know, hear the information and retain it and have
1636 1 HEARING OFFICER ORTH: Okay. 2 In that case, what -- I'm not getting a 3 message that I am -- you know, have low bandwidth, but 4 I'm going to turn off my video. I won't leave my chair, 5 but I'm going to turn off my video. 6 All right. Please wave at me if I continue to 7 cut out. 8 All right. So over the weekend, counsel did 9 write with a couple of different suggestions for 10 streamlining the process. 11 One suggestion was to have the Board Members 12 question all of the witnesses on a particular topic 13 rather than each witness one at a time. That wouldn't 14 necessarily work for some of the bigger or more 15 controversial topics, but as to some of the -- some of 16 the smaller ones. So that was one suggestion. I would 17 certainly recommend that for your consideration. 18 Another -- let's see, what was another 19 suggestion. We had a Dropbox spreadsheet there with an 20 indication to sort of visually indicate where there was 21 any party with contrary testimony to the September 16 22 proposal, and some e-mails in which a couple of the 23 parties indicated really just how precise or limited 24 their objections were to any of the provisions in the 25 September 16 draft.	1638 1 your questions addressed. 2 But that way the Department can also finish 3 up, and you can hear from the Department again on 4 surrebuttal so that you're not asking questions of other 5 witnesses that might easily be answered by the 6 Department. 7 And then on the larger topics, not -- not 8 necessarily following that format, just because they're 9 so large, and to ask the Board to wait for the whole 10 thing to be done, to hold questions doesn't seem 11 effective. 12 But one -- one method would be to have -- 13 which I think could apply to all topics, would be for 14 the parties to put all of their witness -- each party 15 put all their witnesses up, and then -- before there was 16 any cross, and so their panel -- they could sit as a 17 panel for cross-examination. And for the -- for those 18 larger topics, they would sit as -- then the party would 19 sit as a panel for the Board's questions. 20 So I know it's a little confusing, but those 21 are some ways to kind of consolidate and hopefully 22 streamline things a little bit. 23 That's about as far as we were able to get 24 between the parties, and we're hoping that, you know, 25 they're -- on some of the smaller topics, at least

1639 1 there's, you know, a good amount of agreement that we 2 could get through them fairly quickly. 3 HEARING OFFICER ORTH: All right. Thank you, 4 Ms. Katz. 5 Any other counsel? 6 Ms. Fox. 7 MS. FOX: Thank you, Madam Hearing Officer. 8 Good morning, Madam Chair, Members of the 9 Board. 10 And we concur with what Ms. Katz and Ms. Orth 11 just stated and would just add as a larger topic that we 12 would like done separately is the completions proposal, 13 which is one of our four major proposals. 14 Thank you. 15 HEARING OFFICER ORTH: Thank you. 16 Mr. Hiser? 17 MR. HISER: Thank you, Madam Hearing Officer. 18 Yes. NMOGA is supportive of the approach, as 19 you know. And I'm not sure that we may not be able to 20 do engines and turbines in that same fashion. And I 21 believe that almost all the parties are aligned with 22 National Park Service having a slightly different 23 proposal. 24 HEARING OFFICER ORTH: All right. Thank you 25 for that.	1641 1 I mean, that's -- let me know, but it just seemed like 2 it could be useful for the Board before we're getting 3 into each of these sections, because were cost -- there 4 was a cost estimate done in connection with each of the 5 rule -- the substantive rule sections that we're now 6 getting into. 7 HEARING OFFICER ORTH: Does the Board support 8 that? 9 CHAIR SUINA: Good morning. 10 Yeah. Madam Hearing Officer, yeah, it looks 11 like the Board Members are thumbs up on that, and so I 12 appreciate the counsels getting together and trying to 13 figure out how we streamline this and get through all of 14 these topics, as well as hear all the -- all the 15 information. Appreciate that. 16 HEARING OFFICER ORTH: Thank you. 17 Ms. Katz, does someone need screen sharing? 18 MS. KATZ: Yes. Mr. Palmer needs screen 19 sharing, I believe. 20 HEARING OFFICER ORTH: All righty. 21 DIRECT EXAMINATION OF BRIAN PALMER 22 (Relating to ERG's cost estimates) 23 BY MS. KATZ: 24 MR. PALMER: I'll share my screen. 25 Thank you, all, very much.
1640 1 Anyone else? 2 No. 3 All right. Ms. Katz, then, will you be 4 kicking off the testimony this morning? 5 MS. KATZ: Yes, Madam Hearing Officer. 6 So this -- we're on Topic 24, and this is 7 engines and turbines. 8 The Department calls Elizabeth Bisbey-Kuehn 9 and Brian Palmer. 10 ELIZABETH BISBEY-KUEHN and BRIAN PALMER 11 (Relating to Topic Order 24) 12 having been first duly sworn or affirmed, were 13 examined and testified as follows: 14 MS. KATZ: Before we go into the testimony, I 15 wanted to offer for Mr. Palmer to -- if the Board would 16 like, for Mr. Palmer to present just a sort of brief 17 discussion about ERG's cost estimates, how -- for each 18 section, how they came up with that, because I know 19 there's been some confusion around that. 20 And so we thought we might pick a sort of 21 straightforward one for illustration purposes, which is 22 the storage tanks cost estimates, and just briefly go 23 through that just to show the Board how those were done, 24 if you feel like that might be helpful. 25 And if other parties have an issue with that,	1642 1 Share. Okay. 2 So this is a typical cost spreadsheet that we 3 set up. The Department, we generated cost and emission 4 reduction spreadsheets for each of the equipment types 5 that are covered by the rule. And this is the one 6 for -- for storage tanks, and this is a sheet we call 7 cost factors, which sort of lays the groundwork for how 8 we estimated costs. 9 And this one I've tried to do a little 10 formatting to make it maybe a little easier for you all 11 to follow with different colors to try to match stuff 12 up. So this is not an official exhibit. Let me just 13 say that. But it's -- it's for -- 14 HEARING OFFICER ORTH: Mr. Palmer -- 15 MR. PALMER: -- purposes only. 16 HEARING OFFICER ORTH: -- can you make that 17 any larger? 18 MR. PALMER: I can. 19 HEARING OFFICER ORTH: Maybe by hitting the 20 full screen? 21 MR. PALMER: I can Zoom in. Whoops. 22 Can I do that? Is that better? 23 HEARING OFFICER ORTH: Yeah. That's better. 24 MR. PALMER: Okay. Let me just see here. I 25 just want to make sure everything is in here. Okay.

1643 1 So what we do is we estimate both the capital 2 costs and the annual costs. And capital costs are 3 basically the cost of buying and building and installing 4 a control device. And then the annual costs are the 5 annualized capital costs, so that capital cost spread 6 out over the length of the equipment, plus other annual 7 costs that you'll have every year, that you can think of 8 as operating and maintenance costs, for example. 9 So this is an example for a combustor control, 10 and the cost estimate we had initially was for 2012 11 dollars. And I think this came out of the -- this one 12 came out of the EPA's control technology guidance 13 document. So these numbers were in 2012 dollars, and 14 they included the cost of the combustor, freight and 15 design, installing auto-ignitor, surveillance system, so 16 telemetry, for example. Then there's the cost of 17 installing the combustor. We also included cost for 18 retrofitting storage vessels. 19 So add all those together, and you get what -- 20 the total capital investment. So this is to get you 21 with a combustor installed on the site and all hooked up 22 and ready to go. 23 So these are in 2012 dollars. So we scaled 24 them up to 2019 dollars, using what's called the 25 Chemical Engineering Plant Cost Index, which is -- it's	1645 1 you're going to do \$115,000. 2 And then we have these annual cost items which 3 will occur every year, even after the equipment's paid 4 for, let's say, and these include operating labor, 5 maintenance labor, nonlabor maintenance, so that's 6 parts, for example. In this case because it's a 7 combustor, we're including a cost for pilot fuel. Data 8 management, which there were a lot of questions about 9 whether there's the administrative costs of these add-on 10 controls is included, and so there's data management 11 included. Those costs from 2012 are scaled up to 2019, 12 as well. 13 And then there's a capital recovery, which in 14 this case we estimated for the cost of the combustor 15 plus one large storage tank retrofit cost. 16 And so adding everything together here, you 17 get your total annual cost, which in this case is 18 \$24,500. So that's the annual cost per year to operate 19 and maintain a combustor, and it includes the capital 20 recovery, so the initial capital cost of building and 21 installing the combustor. 22 So that's pretty much how we do it, and it's 23 something similar for each of the control devices that 24 we have, or in the case of engines, you know, retrofit 25 costs, for example.
1644 1 published through Chemical Engineering magazine. And 2 you get a start year, which was 2012, and then we scaled 3 everything up to 2019. 4 So there's two factors. You just divide the 5 2019 -- or divide one by the other, and you get a 6 scaling ratio. So the costs are scaled up from 2012 to 7 2019. In this case we actually used -- in the testimony 8 that was submitted on the rule, there was actually a 9 combustor cost provided by one of the commenters. So we 10 included that in our analysis. 11 So to spread the costs out over the years, we 12 use what's called a capital recovery factor, which is 13 calculated based on the interest rate, which in this 14 case is 3.25 percent, and a 15-year lifetime for 15 recovering that cost. So that gives you what's called 16 the capital recovery factor, which in this case is 17 .0853. You multiply that times your capital cost, and 18 you get your annualized capital cost. 19 So that's, if I'm not mistaken -- this is your 20 total capital cost. It's the same here, \$115,000. It's 21 here. You plug in your interest rate, the years, you 22 get this capital recovery factor, multiply it -- oop. 23 Oh, my gosh. Don't do that, Brian. Anyway. Sorry. 24 You multiply the capital recovery factor by this capital 25 cost, and now this is your annualized capital cost, if	1646 1 And in this case we've also set up -- because 2 it's storage tanks and some facilities have more than 3 one storage tank, we set it up so that we could 4 calculate, you know, cost given like one combustor and 5 the cost per tank, so we can multiply the number of 6 tanks times that cost. So that's what we have over in 7 these -- this part of the spreadsheet here. 8 But that's basically sort of our template for 9 doing these, and I will entertain any questions the 10 Board may have on how we do this. 11 Let me know if I should stop sharing the 12 screen. 13 HEARING OFFICER ORTH: Yes, please. 14 MR. PALMER: Okay. 15 HEARING OFFICER ORTH: I may have to ask you 16 to reshare it, but it's hard to see -- 17 MR. PALMER: That's fine. Okay. I've just 18 got to figure out -- 19 HEARING OFFICER ORTH: -- who's turning on 20 their screen. 21 Counsel or parties, if you have a -- 22 MR. PALMER: Stop. Stop sharing. Okay. 23 Thank you. 24 HEARING OFFICER ORTH: -- question of 25 Mr. Palmer, please turn on your video.

1647 1 Mr. Hiser and then Mr. Rose. 2 CROSS-EXAMINATION OF BRIAN PALMER 3 BY MR. HISER: 4 Q. Good morning, Mr. Palmer. 5 A. Good morning. 6 Q. I actually wouldn't mind if you put your 7 screen back up with that spreadsheet on. 8 A. Okay. 9 Oh. Okay. 10 Q. And one of the things that I think that you've 11 heard from industry is that the -- that some of the 12 costs might be a little bit low, and I wanted to give an 13 example of the industry concern with that. 14 So if you were to take row 6, which is your 15 combustor cost, and your 2012 cost, I think, shows 16 18,169 -- 17 A. Um-hum. 18 Q. -- and you were to multiply that cost by your 19 inflation factor that's shown in row 3, which is the 20 607.5 divided by the 584.6, could you do a demonstration 21 just to show what the inflated costs would be versus the 22 Valor cost that you actually inserted into column -- 23 into your column C? 24 Because I believe that's the Valor cost 25 according to your note.	1649 1 A. So we had -- yeah. So that one went up -- was 2 only 18. This is what we originally had. This is what 3 Valor submitted. 4 Q. Provided. Okay. 5 But there's -- you would agree that there is a 6 little bit of a difference between those two estimates? 7 A. Yes. Yes, there is. 8 Q. Okay. 9 A. And if you take this one here -- okay? Okay. 10 So now -- take this one. So this was our annualized 11 cost here. Oh, this one here. Sorry. 18. And this is 12 the Valor one annualized. So there's a \$900 -- 9 -- 13 \$900 per year difference in annualized capital cost. So 14 it's a \$10,000 difference, 11,000 almost difference in 15 the capital cost. 16 After you annualize it, the difference -- the 17 annual cost does go down a little bit. The difference 18 is \$900 a year, not -- you know, less than 1,000. So 19 the annualizing is pretty important. 20 The interest rate you use here is pretty 21 important. The CTG is the 7 percent interest rate 22 instead of a 3.25. And so even -- this was the -- this 23 here is the CTG's initial cost from 2012, and this is it 24 actually here, using a 3.25 instead of a 7. So this is 25 after scaling it up and -- well, it's actually -- I'm
1648 1 A. That's correct. 2 So -- 3 Q. This -- 4 A. -- this cost here is based on -- 5 Q. The Valor cost. 6 A. So what is your question exactly? 7 Q. I was just hoping that you could show the 8 Board the difference between the Valor estimate and what 9 we would have seen if we had used a 2012 cost 10 extrapolated out using the Chemical Engineering Plant 11 Cost Index number. 12 A. Okay. Let me do something real quick here, if 13 I may. 14 Q. So hopefully you've got it set up so that you 15 can edit. 16 A. Oh, yeah. It's set up so I can edit. 17 Q. So I would just maybe under the note put 18 equals, and you can just type the formula in there. 19 A. Yeah. That's what I was going to do. I was 20 just going to -- here. 21 (Unintelligible and/or inaudible). Off. 22 Bring that back there. This off here. Okay. So -- and 23 then I'm going to -- instead of doing that one, I'm 24 going to do this one here. 25 Q. Yeah.	1650 1 getting confused. 2 But the interest rate is pretty important in 3 your numbers, because the years, 15 to 20, is -- that's 4 a factor, but the interest rates are -- you know, people 5 are much happier with 3.25 than they are with 7. So -- 6 Q. Okay. 7 Now, that was really my only question, was 8 just to sort of show the -- 9 A. Yeah. 10 Q. -- just level of difference between the ex -- 11 inflator and the other costs from time to time. 12 That's my only question, Ms. Orth. So I will 13 turn Mr. Palmer over to Mr. Rose. 14 HEARING OFFICER ORTH: Thank you. 15 Mr. Rose? 16 MR. ROSE: And thanks for turning him over 17 here. 18 CROSS-EXAMINATION OF BRIAN PALMER 19 BY MR. ROSE: 20 Q. I just had a couple of questions about your 21 example. 22 And I know that looks like you've looked -- 23 you've got the 2012 dollars, which is the EPA numbers, 24 and the 2019 dollars. 25 Is there a reason why you use 2019 and not

1651 1 2020 or 2021 dollars -- 2 A. We had started the analyses -- we started the 3 analyses in 2020, and so the -- the most readily 4 available capital -- Chemical Engineering Plant Cost 5 Index was for 2019. 6 Q. And is there a 2020 available now? And if so, 7 how does it -- 8 A. Yes. 9 Q. -- compare, talking about relatively minor 10 increases or -- 11 A. Yeah. I mean, because interest rates and 12 inflation have been relatively low, things are 13 different -- you know, I think given there is obviously 14 more talk in the news now about higher inflation than we 15 have seen in the past. So it's -- yeah. I -- but you 16 can see even from 2012 to 2019 -- I don't want to call 17 it modest, but not earth-shattering differences there. 18 So -- 19 Q. Yeah. I think we got into trouble talking 20 about modest and -- 21 A. I know. It's a -- 22 Q. -- probably a good idea not to do that. 23 A. Right. Yeah. 24 Q. With respect to your labor costs and -- and, 25 obviously, there will be comments on individual pieces	1653 1 all up, they've generally been using preexisting cost 2 algorithms from EPA and other documents. We included 3 also, I mean, if -- like some industry studies to 4 estimate costs. And generally they don't have, you 5 know -- we haven't tried to forecast or estimate the 6 impact of the current situation on -- on labor costs per 7 se. I mean, that's a -- another -- another level of 8 computation that's hard to -- hard to apply. So -- 9 Q. And there -- and there may not be any 10 quantitative measures, and some of these may be more 11 qualitative, and we'll get into that. 12 With respect to your annualized costs, I think 13 I heard you say, and I just wanted to understand it, 14 that you're looking at taking the capital costs and 15 spreading them over the lifetime of the particular piece 16 of equipment. 17 I assume -- or that assumes, does it not, 18 that, in fact, these will be financed over the -- that 19 period of time, as opposed to the capital costs being 20 paid up front? 21 A. Generally. It's a standard EPA cost 22 estimating procedure to -- to spread the costs out over 23 the lifetime of the equipment. So -- 24 Q. I think there may be testimony with respect to 25 how some of the businesses here, particularly the
1652 1 when we get to it, but as a general proposition, how did 2 you derive your labor costs, and are they area specific? 3 Are they different, for example, in the states Northwest 4 and in the Southeast? And if so, is that accommodated 5 by your spreadsheet at all? 6 A. These -- these labor costs came from the -- in 7 this particular case, they came from the EPA's 2016 CTG, 8 and those are usually national labor costs. The EPA 9 tends to look at the Bureau of Labor Statistics to 10 generate those. And they include both the fixed labor 11 cost -- well, the salary, or wages, and then also 12 overhead benefits, as well, health insurance, vacation, 13 retirement, whatever. 14 So there's usually a multiplier they use to 15 calculate those so that it includes the whole package. 16 It's not just hourly wages. 17 Q. So for example -- I mean, 2021 has been, 18 obviously, an odd year in terms of labor and whether or 19 not labor is actually even accessible at any cost for 20 some of these things. 21 I was curious if that's factored into any of 22 this, or would that be something we'd need to look at in 23 the context of individual costs that you're going to go 24 through later for the individual items? 25 A. It's not. You know, as I said, we set these	1654 1 smaller ones, whether they, in fact, finance or how they 2 do that. So we'll get into -- 3 A. Right. 4 Q. -- those discussions more particularly later, 5 I think. 6 A. Yeah. And that's -- and that's -- and that 7 obviously varies from business to business, it varies 8 from industry to industry. It may vary from equipment 9 type to equipment type. And so it's -- we're not privy 10 to what individual companies are capable of doing and 11 such. So this is a standardized procedure to present 12 costs on a -- on a uniform documented basis. 13 Q. And I take it it also depends on the 14 availability of credit for some of these businesses, 15 which may or may not -- 16 A. (Simultaneous discussion.) 17 Q. We'll have, I think -- I assume, testimony on 18 that later, as well. 19 Thank you, Mr. Palmer. That's all the 20 questions I have. 21 HEARING OFFICER ORTH: All right. Thank you, 22 Mr. Rose. 23 I didn't see anyone else with their screen on. 24 I'm going to turn to the Board Members for 25 their questions.

1655 1 While I'm doing that, in the event you're an 2 attendee and have a question, please reach out through 3 the chat. 4 EXAMINATION OF BRIAN PALMER 5 BY THE BOARD: 6 HEARING OFFICER ORTH: Madam Chair, do you 7 have questions? 8 CHAIR SUINA: Thank you, Madam Hearing 9 Officer. 10 Just clarification on some of these. 11 So I'm actually looking at the spreadsheet in 12 detail so it's taking me a little bit of time to do 13 that, but -- 14 MR. PALMER: Um-hum. 15 CHAIR SUINA: -- in my mind this pink -- I 16 know you can't see my arrow here, but the pink is -- is 17 combined into that annual combustor cost pink in column 18 E; is that correct? 19 MR. PALMER: That's correct. Right. 20 CHAIR SUINA: Okay. 21 MR. PALMER: So here. 22 Like that? 23 CHAIR SUINA: Okay. That helps. 24 MR. PALMER: Yeah. 25 CHAIR SUINA: Okay.	1657 1 orange? Sorry. 2 MR. PALMER: Okay. Um-hum. 3 CHAIR SUINA: There you go. 4 So that is equal to that. Okay. 5 And then the annualized costs, can you click 6 on that orange there? 7 So again just remind me. Can you walk me 8 through that again? So that's -- 9 MR. PALMER: In this case, this annualized 10 cost here -- 11 CHAIR SUINA: Uh-huh. 12 MR. PALMER: -- is the annualized cost of this 13 total here, which is the total capital investment. 14 CHAIR SUINA: Okay. 15 MR. PALMER: So this value is this times -- 16 it's really this times this will equal this. 17 CHAIR SUINA: Okay. 18 Can you -- can you click on that one again? 19 Yes. So I just can see the formula? 20 All right. So B24 times the interest -- 21 MR. PALMER: Yeah. 22 CHAIR SUINA: -- is B -- 23 (Simultaneous discussion.) 24 MR. PALMER: So really this is -- this B23 is 25 this one here. So this formula here actually has a lot
1656 1 And then the purple is just the purple, and 2 then the blue is the addition of the pink and the 3 purple; is that correct? Okay. 4 MR. PALMER: Correct. Yeah. We set this up 5 like -- so that when we did the storage tank costs we 6 could actually apply this retrofit cost here to the 7 number of tanks that that particular facility had and 8 the equipment data from NMED from their permitting 9 database. 10 CHAIR SUINA: Okay. 11 And would you -- would you mind also going 12 over the brown, as well, clicking on column E -- yeah. 13 MR. PALMER: Um-hum. 14 CHAIR SUINA: That one there. So it's the sum 15 of the brown. And then the orange is really -- can you 16 go to the orange or -- yeah. There you go. 17 MR. PALMER: Oops. Hang on. Oh, no. Come 18 on. 19 CHAIR SUINA: If you just hit the X in the -- 20 next to the formula, go up -- yeah. And then hit that X 21 right there. 22 MR. PALMER: Thank you. 23 CHAIR SUINA: Um-hum. 24 MR. PALMER: Yeah. 25 CHAIR SUINA: Yeah. So could you go to the	1658 1 of the same stuff as this formula here. 2 CHAIR SUINA: Okay. Okay. 3 MR. PALMER: So -- 4 CHAIR SUINA: Okay. 5 So where does the brown -- again I'm just 6 trying to navigate this. The annual O&M cost, the 7 14,659, where does that come into a summary, I guess, 8 calculation? Is that separate of the 115? 9 MR. PALMER: Yeah. So this is -- for a 10 facility that has to retrofit one tank, this is the 11 total cost, is down here. 12 CHAIR SUINA: Okay. 13 MR. PALMER: So this is the annualized 14 combustor cost, which is all of this. It's a retrofit 15 tank, annualized cost to retrofit a tank, which is this 16 here, and then it's the sum of these O&M costs here. 17 CHAIR SUINA: Okay. Okay. I see. 18 Okay. Well, I'll let my fellow Board Members 19 ask some additional questions as I look through this. 20 Thank you. That's all for now. 21 Thank you, Madam Hearing Officer. 22 HEARING OFFICER ORTH: Thank you. 23 Vice-Chair Trujillo Davis? 24 VICE-CHAIR TRUJILLO DAVIS: Yes. 25 And thank you, Mr. Palmer, for putting this

1659 1 together for us, too, to look at. 2 My question is the total capital investment 3 that you referred to, I believe it's that 115,761; is 4 that correct? 5 MR. PALMER: Um-hum. 6 VICE-CHAIR TRUJILLO DAVIS: Is that -- just to 7 clarify, that's per facility, not -- is that correct? 8 Is that -- 9 MR. PALMER: That's correct. And that's for a 10 facility that has one storage tank retrofit. 11 VICE-CHAIR TRUJILLO DAVIS: One storage tank 12 retrofit. Okay. 13 MR. PALMER: Right. Yeah. 14 VICE-CHAIR TRUJILLO DAVIS: So is that based 15 on the -- well, actually, that -- I guess that wouldn't 16 matter. 17 So most facilities in Eddy and Lea County, 18 they have five tanks. So -- 19 MR. PALMER: Correct. Yeah. 20 VICE-CHAIR TRUJILLO DAVIS: -- we would take 21 that and multiply that by -- by five, right? 22 MR. PALMER: This -- in a case where you have 23 five tanks -- 24 VICE-CHAIR TRUJILLO DAVIS: Um-hum. 25 MR. PALMER: -- you'll take this annualized	1661 1 storage tank facilities, this would be -- they would 2 have 10 times this cost, this much for each storage tank 3 facility, if it was a -- if they were all separate 4 facilities. 5 But I think it's -- we're not really trying to 6 go into the impacts on any individual facility in this 7 discussion, but this is the cost per facility if they 8 had one storage tank. 9 VICE-CHAIR TRUJILLO DAVIS: Per facility per 10 year, right? 11 MR. PALMER: Per facility per year. That's 12 correct. Yep. 13 VICE-CHAIR TRUJILLO DAVIS: Okay. 14 But the 115,000 is total. 15 MR. PALMER: That is the initial capital cost. 16 That's the cost to buy and install the equipment and 17 retrofit a storage tank. 18 VICE-CHAIR TRUJILLO DAVIS: So as I 19 understand, you know, a larger facility can cover -- I 20 mean -- sorry -- a larger company can cover the cost of 21 these a lot easier than a smaller company. So I'm 22 trying -- I'm trying to figure out really what kind 23 of -- what kind of impact are we looking at on maybe the 24 smaller operators as -- as they try to incorporate some 25 of these?
1660 1 combustor cost plus five times this, plus the annual O&M 2 cost. So you're going to have about \$30,000 in retrofit 3 costs instead of \$6,000. So this value here would go up 4 to, you know, \$50,000, instead of 24,000. 5 VICE-CHAIR TRUJILLO DAVIS: Okay. 6 And these numbers apply to any operator no 7 matter the size; is that correct? 8 MR. PALMER: In the storage tank rule 9 provisions, there's a ton per year potential to emit 10 threshold. So they would apply to any facility that is 11 above that ton per year PTE threshold. 12 VICE-CHAIR TRUJILLO DAVIS: Okay. So I'm just 13 trying to kind of wrap my head around this. 14 So if they qualified -- and this may be 15 partially a question for Ms. Katz, as well. If they 16 qualified for a small business -- under the small 17 business exemption and they made their annual cost -- or 18 their annual profit was less than \$250,000, I believe is 19 the number -- 20 MR. PALMER: Um-hum. 21 VICE-CHAIR TRUJILLO DAVIS: -- then if they 22 operated 10 facilities, this would eat their profit for 23 at least five years? Is that the way I understand it? 24 MR. PALMER: That would be a pretty unlikely 25 scenario. I mean, yes. If they had -- if there were 10	1662 1 MR. PALMER: Um-hum. 2 MS. KATZ: Member Trujillo Davis, perhaps I 3 could at least add some clarification, that this cost, 4 the storage tank provisions, would not apply to a small 5 business facility. 6 VICE-CHAIR TRUJILLO DAVIS: Okay. 7 MS. KATZ: Most of the -- most of the 8 provisions of the rule will not apply to a small 9 business facility, except for leak detection and repair. 10 VICE-CHAIR TRUJILLO DAVIS: Okay. Thank you 11 for that clarification. That's what I was trying to 12 ascertain. 13 I don't have any more questions right now. 14 Thank you. 15 HEARING OFFICER ORTH: Thank you. 16 Member Cates? 17 MEMBER CATES: Yeah. No questions here. 18 Thank you. 19 HEARING OFFICER ORTH: Thank you. 20 Member Bitzer? 21 Let's see here. 22 Did you say no questions? 23 Member Bitzer? 24 Hmm. Okay. 25 Okay. I'm not hearing you, Member Bitzer,

1663 1 even though you're unmuted. But it doesn't look like 2 you have other questions. Okay. 3 Member Duval? 4 MR. DUVAL: No questions. Thank you. 5 HEARING OFFICER ORTH: Thank you. 6 Member Garcia? 7 MEMBER GARCIA: Yes. Thank you. 8 I -- I'm not sure if we decided that I could 9 ask questions as a panel. In other words, I have a 10 question for Mr. Hiser or Mr. Rose. 11 Would that be possible or no? 12 HEARING OFFICER ORTH: Not -- not just yet. 13 MEMBER GARCIA: Okay. 14 (Simultaneous discussion.) 15 HEARING OFFICER ORTH: When they put on their 16 witnesses, that would be a good question. 17 MEMBER GARCIA: Okay. Thank you. That's all. 18 HEARING OFFICER ORTH: All right. 19 Member Honker? 20 MEMBER HONKER: No questions. Thanks. 21 HEARING OFFICER ORTH: All right. 22 I -- oh, let's see. Madam Chair, and then I 23 do have a question in the chat. 24 Madam Chair, go ahead. 25 CHAIR SUINA: Thank you, Madam Hearing	1665 1 lines. 2 Was there any cost that you identified that 3 you chose not to include? Maybe they were slightly out 4 of scope or anything like that? 5 MR. PALMER: No. I can't recall any. I think 6 we tried to be pretty comprehensive and pretty 7 transparent in the spreadsheets. Everything is in 8 there, and the spreadsheets were put on the NMED's web 9 site back at the beginning of June, and they include, 10 you know, similar to this sheet here, all the references 11 and all the scaling factors. 12 And so we tried to be as transparent as 13 possible in developing the costs and emission reduction 14 estimates, as well, cost effectiveness. And then we -- 15 so we -- some of the parties took advantage of that and 16 provided pretty constructive, detailed testimony on the 17 cost estimates. And we examined that during developing 18 our rebuttal testimony and the final rule and the 19 proposed final, the September 7 -- 16th version of the 20 rule. 21 So -- so everything -- everything we did is 22 spelled out as much as we could. So -- 23 VICE-CHAIR TRUJILLO DAVIS: Thank you for that 24 information. 25 I don't have any more questions.
1664 1 Officer. 2 And actually Member Garcia brought this up. 3 Maybe I can wait for my question, because it has to do 4 with NMOGA's numbers, as well. So I'll wait until -- 5 just in terms of efficiency on my question. 6 HEARING OFFICER ORTH: All right. Thank you. 7 The question in the chat from Ms. King, 8 Mr. Palmer, does the economic cost estimate method 9 differ from -- differ from the EPA control cost manual? 10 And if it does, why? 11 MR. PALMER: It does not, in fact. Most of 12 these, because we used a lot of the -- a lot of cost 13 algorithms from the USEPA, it incorporates the USEPA's 14 control cost methodology. So that's sort of the 15 standard we tend to use as a default. 16 In a couple of cases, there are some where we 17 can get into those specifics, and they're documented in 18 our testimony and in our spreadsheets where we differ 19 from using the EPA methodology. We -- we documented 20 that. But for the most part, we use the EPA OAQPS 21 Control Cost Manual. 22 HEARING OFFICER ORTH: All right. Thank you. 23 And Vice-Chair Trujillo Davis. 24 VICE-CHAIR TRUJILLO DAVIS: I just have one 25 more question. It kind of goes along those exact same	1666 1 HEARING OFFICER ORTH: Thank you. 2 MS. KATZ: And I'll just say that again this 3 was just using as an example each of these -- there's 4 one of each of these for each of the rule sections. The 5 costs will be detailed in the testimony on each of those 6 sections. So if there's questions about a particular 7 estimate for a particular equipment or process, it will 8 be dealt with in that section. 9 HEARING OFFICER ORTH: All right. Thank you, 10 Ms. Katz. 11 Madam Chair, you had another question? 12 CHAIR SUINA: Thank you, Madam Hearing 13 Officer. 14 Just one question to clarify. 15 So the costs in brown related to operating the 16 labor really looks like the labor costs, did that 17 also -- can you explain maybe more where -- how those 18 were estimated? Were those coming from the CEPCI, or 19 were those -- how did you assume how much labor was 20 going to be needed? Because I -- again I presume that 21 the rule for New Mexico is unique, that it might not be 22 same thing widespread across nationwide costs. 23 MR. PALMER: Um-hum. The operating labor, 24 maintenance labor, those were the same values used in 25 the original documentation. So in this case it was the

1667 1 EPA's Control Technique Guideline document. We -- we 2 pretty much took those at face value and didn't try to 3 dig into the details and see if there was any -- 4 anything different for New Mexico compared to what the 5 EPA used in their cost estimates. 6 CHAIR SUINA: Okay. 7 So -- 8 MR. PALMER: We generally take an estimated 9 labor and then apply the -- the labor cost and benefits 10 for each type of control device, source type. 11 CHAIR SUINA: Okay. 12 So that index or that source did estimate how 13 many hours or how -- how extensive the labor was going 14 to be? 15 MR. PALMER: Yeah. And the -- the methodology 16 in the OAQPS Cost Manual includes estimates for labor, 17 as well as other expenses, and those are usually based 18 on estimates from vendors and industry input. 19 CHAIR SUINA: Okay. Thank you for that 20 clarification. 21 That's all for right now, Madam Hearing 22 Officer. 23 HEARING OFFICER ORTH: All right. Thank you 24 very much. 25 Ms. Katz, will there be any follow-up?	1669 1 how we calculated various costs or various types of 2 costs, did all -- these spreadsheets were posted for 3 everybody's review beginning in June of this year, 4 correct? 5 A. That's correct. Yes. 6 Q. And so the parties had the opportunity to 7 review all of these and make comments as to the 8 methodologies in their -- both their direct and rebuttal 9 testimonies; is that correct? 10 A. That's correct. And some parties even dug 11 into not just the methodology, but the actual data and 12 provided some corrections that we were able to 13 incorporate into analyzing the data further for the 14 rule. So -- 15 Q. Okay. 16 Thank you. That's all I have. 17 HEARING OFFICER ORTH: All right. Thank -- 18 yes? 19 MS. KATZ: Oh, I'm sorry. I just was -- would 20 then ask to move to the engines testimony. 21 HEARING OFFICER ORTH: All right. Thank you. 22 And will it still be Mr. Palmer or Ms. Kuehn? 23 MS. KATZ: Both. 24 HEARING OFFICER ORTH: Okay. Thank you. 25 Go ahead.
1668 1 MS. KATZ: Just a couple questions. 2 REDIRECT EXAMINATION OF BRIAN PALMER 3 BY MS. KATZ: 4 Q. So, Mr. Palmer, so with regard to Mr. Hiser's 5 observation about the change in the numbers in the 6 costs, does this actually demonstrate that we listened 7 to what the other parties' input was and made changes 8 accordingly? 9 A. In this particular case, yeah. I mean, we did 10 try to look at the information for where we did get 11 relatively manageable, let me say, comments on the 12 costs, and we did try to -- we did update those costs 13 when we could. In some cases cost estimates were very 14 facility specific, related to a particular control 15 technology that we did not actually adopt in the -- in 16 the September 16th version of the rule. But for the 17 most part, we tried to do that. 18 Q. Where we thought it was -- where we felt 19 like -- 20 A. Yes. 21 Q. -- it was warranted and reasonable? 22 A. Yeah. And broadly applicable. 23 Q. Thank you. Okay. 24 A. And not facility specific. Yes. 25 Q. And then with regard to the questions about	1670 1 MR. BAAKE: Madam Hearing Officer, before we 2 get started -- this is David Baake. 3 I did want to just inform the parties that we 4 do hope to have brief surrebuttal on this. 5 Unfortunately, our witness, Dr. Daniel Orozco, is not 6 available today. Likely Wednesday would be the best day 7 for him. But again we expect it to be fairly brief. 8 HEARING OFFICER ORTH: All right. Thank you. 9 I know that as we try to move through these 10 topics quickly we sometimes confront witness 11 availability issues. But I think that's okay. It will 12 all be a part of the same 10-volume transcript. So 13 thank you for that, Mr. Baake. 14 Go ahead, Ms. Katz. 15 DIRECT EXAMINATION 16 BY MS. KATZ: 17 HEARING OFFICER ORTH: Does Ms. Kuehn need 18 screen sharing? All right. 19 MS. KATZ: Yes. 20 And for the Board's information, this -- this 21 rule provision is 20.2.50.113, and it is in -- the 22 testimony is in NMED Exhibit 32, starting on page 30, 23 and then on NMED Rebuttal Exhibit 1, pages 27 through 24 48. 25 MS. KATZ: All right. I will start with

1671 1 Mr. Palmer. 2 You've submitted written direct and rebuttal 3 testimony on this, correct? 4 Mr. Palmer? 5 You're on mute. 6 MR. PALMER: Yes, I did. 7 MS. KATZ: Okay. 8 And you've already adopted those on the 9 record. 10 Do you have any changes to your written 11 testimony? 12 MR. PALMER: Yes, I do. 13 On -- in Rebuttal Exhibit 01, on page 47, line 14 4, the words at the end of the sentence "in the table 15 below" should be replaced with the words "in Rebuttal 16 Exhibit 5." 17 And on the same page, at lines 22 and 23, the 18 words at the end of the sentence "in the table below" 19 should be replaced with the words "in Rebuttal 20 Exhibit 5." 21 MS. KATZ: Thank you. 22 And, Ms. Kuehn, you've submitted your written 23 direct and rebuttal testimony on this topic? 24 MS. BISBEY-KUEHN: Yes. 25 MS. KATZ: Do you have any changes to your	1673 1 ignition that occurs. 2 The control options available for -- for these 3 engines include combustion modifications and 4 postcombustion control to reduce -- in order to reduce 5 NOx emissions. You can employ emission reduction methods 6 that lower the combustion temperature and reduce the 7 thermal NOx created during the combustion cycle. 8 You can also add on postcombustion control 9 technology in the form of a selective catalytic 10 reduction control device or nonselective catalytic 11 reduction device. SCR use a catalyst and a reagent to 12 reduce NOx emissions, and they select for NOx reduction, 13 and hence the term "selective catalytic reduction." 14 Nonselective catalytic reduction targets reduction in NOx 15 and VOC, as well as carbon monoxide. 16 There are also other types of oxidation 17 catalysts that oxidate carbon monoxide and volatile 18 organic compounds. Those are another type of 19 aftermarket catalyst that can reduce VOC emissions. 20 The control options for turbines also employ 21 combustion modifications that reduce the overall 22 combustion temperature, which limits the amount of 23 thermal NOx created in the combustion cycle. And you may 24 also use SCR application to reduce NOx emissions from 25 turbines. And the control options for turbines again
1672 1 written testimony? 2 MS. BISBEY-KUEHN: No. 3 MS. KATZ: Okay. Thank you. 4 Ms. Kuehn, can you summarize how engines and 5 turbines are used in the oil and gas industry and the 6 types of engines and turbines that are used? 7 MS. BISBEY-KUEHN: Yes. Thank you. 8 Good morning, everyone. 9 Engines and turbines are used throughout the 10 oil and gas sector for a variety of purposes. 11 They are used for compressors that move gas 12 throughout the gathering and transmission sector and 13 pipelines. They move gas from the wellhead to gas 14 processing plants and from gas processing plants to 15 transmission pipelines. They move the gas from 16 transmission pipelines to the ultimate user of the gas. 17 They also provide electrical power to sites 18 not connected to commercial line power or as a backup 19 power supply. And engines are used to provide 20 mechanical lift to supplement production from -- from 21 oil wells. 22 In addition, there are two kinds of 23 reciprocating internal combustion engines used in the 24 oil and gas sector. Those are spark ignition and 25 compression ignition, and those speak to the types of	1674 1 are catalytic oxidation, which is a specific type of 2 catalyst that oxidizes carbon monoxide and VOCs. 3 You're on mute, Ms. Katz. 4 MS. KATZ: Sorry. 5 I lost where we are here. We're not on Brian 6 yet. 7 MS. BISBEY-KUEHN: No. 8 MR. PALMER: No. 9 MS. KATZ: Can you please discuss the 10 applicability and emission standards for the engines? 11 MS. BISBEY-KUEHN: Yes. New engines and 12 turbines are required to meet the emission limits in 13 Part 50 upon startup. Existing engines must meet the 14 emission limits over specified timelines in the rule. 15 We have a tiered compliance timeline that 16 allows operators to meet certain percentages of their 17 fleet over periods of time, and so the concept is that 18 at least 30 percent of an owner or operator's existing 19 set of engines must meet the emission standards by 20 July -- or January 1st, 2025. An additional minimum 21 35 percent must meet the emission standards by 22 January 1st, 2027. And then the remaining 35 percent 23 must meet the emission standards by January 1st, 2029. 24 In addition, there's an option to reduce the 25 hours of operation of a specific engine or turbine in

1675 1 order to comply with the emission standards. And there 2 are additional alternative methods of compliance for 3 difficult to retrofit units while ensuring equivalent 4 reductions that -- that I'll speak to in a few minutes. 5 For existing turbines, they are required to 6 meet the limits, as well, over a specified timeline in 7 the rule. Owners and operators must meet at least -- 8 30 percent of their fleet must meet the emission 9 standards by January 1st, 2024. An additional 10 35 percent of the existing turbines must meet the 11 emission standards by January 1, 2026. And then the 12 remaining 35 percent must meet the emission standards by 13 January 1st, 2028. 14 And this -- this timeline is one year shorter 15 for the boiler turbines, and that was because there are 16 just -- there are far fewer number of turbines that are 17 subject to the rule than engines, and so we have a 18 slightly shortened compliance timeline given the smaller 19 number of turbines in that universe. 20 In addition, there's an option for owners and 21 operators to reduce the hours of operation to meet the 22 emission standards. This is an equivalent amount of 23 emission reductions and an important option for owners 24 and operators to meet those standards for difficult to 25 retrofit turbines.	1677 1 Looked at documents from the Ozone Transport 2 Commission, EPA's Alternative Control Technique 3 guideline documents for engines, the federal NESHAP for 4 engines, the NSPS for engines, the EPA's Alternative 5 Control Technique guideline document for turbines, the 6 Technical Support Document for the Cross-State Air 7 Pollution Rule for compliance with the 2008 ambient air 8 quality standards, and then also an industry document 9 which was the -- from the Interstate Natural Gas 10 Association of America. And this was a report on the 11 availability of NOx emission controls for reciprocating 12 compressor engines. 13 So these are just some of the documents that 14 we referred to. All the documents we referred to are 15 listed in the engine and turbine spreadsheets for both 16 NOx and VOC. 17 MS. KATZ: Thank you. 18 And just to clarify for the Board, that the 19 NESHAP is the National Emission Standards for Hazardous 20 Air Pollutants and NSPS is the New Source Performance 21 Standard? 22 MR. PALMER: That's correct. 23 MS. KATZ: Okay. 24 MR. PALMER: Okay. 25 MS. KATZ: Can you discuss the estimated costs
1676 1 And then I'll be speaking about the other 2 alternatives that we have drafted into the -- into the 3 proposed rule shortly. 4 MS. KATZ: Thank you, Ms. Kuehn. 5 Mr. Palmer, can you please discuss for the 6 Board the basis for the engine and turbine requirements 7 that are proposed? 8 MR. PALMER: Yes. On this slide we're listing 9 some, but not all of the different standards we looked 10 at and guidance documents to develop the standards for 11 engines and turbines, recognizing that you need to look 12 beyond just the standard itself and also the background 13 documentation and performance data in order to develop 14 an achievable emission standard. 15 So there's -- some of these we refer to as 16 some key documents that we've used to develop standards 17 for some -- several of the source categories. 18 There's a Pennsylvania General Permit for oil 19 and gas operations, Colorado Regulation 7 for oil and 20 gas. We looked a lot at these Ohio EPA stack test 21 summaries for engines and turbines to develop the 22 emission standards. So this is actual performance data 23 from engines and turbines in Ohio that had been 24 collected and tested over the years from their 25 compliance testing program.	1678 1 and emissions reductions for engines and turbines, 2 Mr. Palmer? 3 MR. PALMER: Yes. So these are the costs and 4 emissions reductions based on the September 16th version 5 of the rule that we'll discuss in the coming slides. 6 So for engines, we estimated a 5,000 ton per 7 year NOx emission reduction and a cost of -- at a cost of 8 \$11.4 million per year. And this is based primarily on 9 most of the engines in the New Mexico database would be 10 able to comply. So this is based on retrofit cost for a 11 handful of engines -- well, about a hundred older 12 engines. 13 And this cost here is for those engines. 14 There's probably some that we -- that will have to take 15 advantage of the -- the flexibility provisions in the 16 rule, because they're -- they're a lot older. They're 17 from the 1950s and '60s and early '70s. So they'll 18 probably have to take advantage of those flexibility 19 provisions. 20 We've estimated from engines 1,600 tons per 21 year of VOC emissions reductions at a cost of 22 \$1.6 million per year. And that's primarily for 23 oxidation -- oxidative catalysts and NSCR on those 24 engines that don't already currently have it. 25 For turbines, we estimated costs -- an

1679 1 emission reduction of 1,900 tons per year reductions and 2 a cost of \$4.3 million per year. And 353 tons per year 3 of VOC reductions at a cost of \$3.4 million per year. 4 And the VOC reductions are based on oxidative catalysts, 5 and the 4.3 million per year is based on retrofit costs. 6 MS. KATZ: Okay. 7 Ms. Kuehn, can you discuss the flexibilities 8 that we have built into the rule now with the 9 Alternative Compliance Plans and alternative emission 10 standards? 11 MS. BISBEY-KUEHN: Yes. In response to 12 comments from stakeholders, we developed an Alternative 13 Compliance Plan that we think provides a reasonable 14 amount of flexibility for sources that are unable to 15 meet the emission standards by allowing owners and 16 operators to determine equivalent amounts of reductions 17 using an alternative strategy. 18 We also added additional requirements for the 19 Alternative Compliance Plan and then for the alternative 20 emission standard that we think are critical to ensuring 21 that the process is transparent and supportable and 22 equivalent. 23 The first concept is -- is the Alternative 24 Compliance Plan, which I'll go through in -- ad nauseam 25 when we get to the final rule -- or the proposed rule.	1681 1 public for a period of 30 days. 2 The owner or operator will simultaneously 3 publish a newspaper notice in a newspaper of general 4 circulation, notifying the public of the availability of 5 that -- that review. 6 After the close of the public comment period, 7 those comments will be sent to the owner or operator, 8 and the owner or operator must address any of the 9 comments received on either proposal. 10 After the comments are received, the -- and 11 the owner or operator satisfactorily responds to those 12 comments, that is when the Department is -- initiates 13 its formal technical review of the proposal. And we 14 have 90 days to review that proposal and approve or deny 15 the -- either the Alternative Compliance Plan or the 16 alternative emission standard proposal. 17 And we think this is an important flexible 18 option for those existing engines and turbines that are 19 very old, and that where it may not be cost effective to 20 necessarily retrofit with a new type of control device, 21 we still -- we think it's important that those engines 22 ensure -- do something to reduce their emissions and -- 23 and have that process be transparent and available for 24 public comment. 25 So these -- with these improvements to the
1680 1 This allows operators to look at -- look at their fleet 2 of engines and propose a plan to the Department that 3 achieves equivalent reductions of emissions. 4 And the second is an alternative emission 5 standard for specific -- for a specific engine or 6 turbine that is unable to achieve those reductions 7 through an Alternative Compliance Plan. For those 8 specific engines or turbines, an owner or operator may 9 conduct a technical and economic feasibility analysis 10 and propose that alternative emission standard for that 11 unit to the Department. 12 Prior to proposing those plans to the 13 Department, the owner or operator must first have that 14 proposal reviewed by an independent third-party 15 consulting or engineering firm who will review the 16 proposal for -- to ensure that it is -- meets the 17 requirements of the subpart and can meet -- that the 18 emission reductions are equivalent to the emission 19 standards in this subpart. 20 At that time that the -- the third party makes 21 their findings after review of the -- the proposal, the 22 owner or operator must then send that proposal with the 23 consulting firm's findings to the Department, where the 24 Department will post the proposal on its web site and 25 make that proposal and the findings available to the	1682 1 overall concept, we think that this process will ensure 2 transparency and will provide additional confidence to 3 the public and also provide reasonable types of 4 flexibility to comply with the standards for -- for 5 those existing units. 6 MS. KATZ: Okay. Thank you. 7 And, Ms. Kuehn, can you summarize the 8 revisions that have been made to the applicability and 9 emission standards for engines and turbines? 10 MS. BISBEY-KUEHN: Yes. I'll start out by 11 saying that the parties are largely in agreement with 12 the new emission standards and thresholds that we've 13 established in this rule. 14 You will see a similar hierarchy or similar 15 kind of pattern of conditions that each of these 16 sections contain. The first subsection in each -- each 17 of the sections of the rule is applicability. That's 18 under Subsection A. And then we will have emission 19 standards under Subsection B. And then we'll follow 20 that with monitoring and recordkeeping and reporting. 21 But you'll see that pattern throughout these sections as 22 we go through different parts of the rule. 23 So for applicability section for engines and 24 turbines, commenters correctly pointed out that -- and 25 made a clarifying request that the nonroad engines that

1683 1 are regulated by the federal government are not subject 2 to this subpart, and we agreed with that comment, that 3 it was correct, and so we've added this clarifying 4 language that those units that meet the definition of 5 nonroad engine are not subject to the requirements of 6 this subpart. 7 Then going down to the emission standards, 8 we've added additional language here that authorizes 9 compliance with the deadline -- with a date specified in 10 this subsection, except as otherwise provided under an 11 approved Alternative Compliance Plan or an approved 12 alternative emission standard. 13 And that -- so B.(1) is speaking to -- is a 14 requirement that outlines the deadlines for compliance 15 for both new and existing engines, and B.(2) speaks to 16 the deadlines for existing engines. And so that -- that 17 clarification was needed in both of those paragraphs. 18 Paragraph B.(2)(a) through (c) spell out the 19 specific schedule that owners and operators must meet 20 and the portion of their percentage of the fleet that 21 must meet the emission standards by specified deadlines. 22 Paragraph B.(2)(d) is the flexible alternative 23 proposal that allows an owner or operator to reduce 24 their annual hours of operation in order to achieve an 25 equivalent amount of emission reductions by -- by	1685 1 lean-burn and rich-burn. We received a significant 2 amount of testimony in the written rebuttal from 3 industry and stakeholders that led to the revisions that 4 you see before you. It was necessary, based on those 5 comments, to break out the types of engines that are 6 covered under the rule. So we are now distinguishing 7 between two-stroke lean-burn and four-stroke rich-burn 8 engines. 9 Each one of these engine types has 10 distinguishing characteristics around the fleet of 11 engines that we have in New Mexico that made these 12 breakout points of rated horsepower really important. 13 And all of that expansive kind of voluminous testimony 14 is provided in -- in all of the stakeholders' feedback 15 on this part, and we -- we responded to each of these, 16 as well, in our rebuttal testimony. 17 And if you -- if there are specific questions 18 that anyone has about where these specific standards 19 were derived, we can speak to those. I'm not going to 20 go into a great deal of detail there. But we did review 21 the testimony put on -- put forward by all of the 22 stakeholders. They did not all agree on where things 23 should be. We looked at that entire set of comments and 24 landed on these numbers based on -- on the comments that 25 we received.
1684 1 limiting their -- their use of -- of equipment, which is 2 a standard and an acceptable way to reduce emissions. 3 So you can -- you can either add on controls or you can 4 reduce the use of -- of equipment, and both actually 5 achieve -- can achieve equivalent amounts of emissions, 6 and so we are agreeable to that approach, as well. 7 We made one edit here that allowed -- that 8 added the -- that inserted the "PTE of" in Paragraph 9 B.(2)(d), which was a necessary clarification, that it 10 was the PTE that needs to be reduced. 11 And then we added a requirement or a clarified 12 statement to -- to clarify that -- that language that 13 allows them to achieve an equivalent allowable ton per 14 year emission reduction as set forth in Table 1, which 15 we'll get to in a second, which outlines the specific 16 standards, or by at least 95 percent per year. 17 MS. KATZ: Can you summarize the requirements 18 for existing engines? 19 MS. BISBEY-KUEHN: Yes. This is the -- Table 20 1 establishes the emission standards for natural 21 gas-fired spark ignition engines constructed or 22 reconstructed before the effective date of this part. 23 So these are the emission standards that are established 24 for existing types of spark-ignited engines. 25 And initially there were standards set out for	1686 1 We were -- there was a request to strike the 2 term "installed." We agreed that simply relocating an 3 engine and then installing an engine at a new location 4 should not be -- should not trigger a new category or 5 classification of that engine as new. And so that 6 striking of the term "installed" addresses that comment. 7 MS. KATZ: And can you discuss the 8 requirements as they exist now for new engines? 9 MS. BISBEY-KUEHN: Yes. So this -- Table 2 is 10 the -- are the emission standards established for spark 11 ignition engines constructed or reconstructed after the 12 effective date of the proposal, and so these are the new 13 engines constructed after the effective date. 14 Again we broke out by horsepower different 15 categories of engines based on feedback from the 16 parties. They did not necessarily all agree with -- 17 with the emission standards that -- they didn't agree to 18 their own comments on certain emission standards, but we 19 have reviewed those comments and have -- have arrived at 20 these numbers based on our overview of the Ohio stack 21 test data, as well as the compelling comments that were 22 submitted by all industry partners. 23 The -- Paragraphs (4) and -- Paragraphs (4) 24 and (6) below speak to engines that are using a type of 25 postcontrol technology that needs a reagent in order for

1687 1 the reaction to take place at the catalyst. So both of 2 those paragraphs limit the amount of ammonia or urea 3 that can be emitted from the stack. Those are only 4 relevant if you're using a postcontrol catalyst that 5 needs a reagent. 6 Paragraph (5) is for compression ignition 7 engines, or diesel engines. These are typically limited 8 use engines. We have one standard for new reportable 9 compression ignition engines that are not subject to the 10 requirements of Subparagraph (b), which establishes an 11 obligation to comply with the standard of performance 12 for stationary compression ignition engines. 13 That is a federal NSPS standard, Quad I, for 14 those types of engines. If a newer portable engine does 15 not -- is not required to comply with Subparagraph (b), 16 their emission standard is -- is 9 grams per 17 horsepower-hour upon startup. 18 MS. KATZ: I'll just let you keep going there, 19 Liz. 20 MS. BISBEY-KUEHN: Okay. In this -- so 21 Paragraph (7) addresses the timeline and schedule for 22 existing turbines. Paragraph (7) also establishes an 23 applicability threshold for the -- for the horsepower 24 for those units and indicates that all owners and 25 operators have to meet the emission standards of	1689 1 make sense with the insertion of the word "applicable" 2 and the insertion of the schedule set forth in Paragraph 3 (7)(a) that I just went through. 4 We received comments from turbine 5 manufacturers, as well as other parties, based on our 6 original draft proposal, and we have made revisions to 7 these standards based on that feedback. 8 In addition, we received a request from Solar 9 to make another adjustment to the turbine rating for 10 existing turbines, and we are in agreement with that 11 request. That request is to modify the turbine rating 12 for existing turbines so that the range in that first 13 emission standard there for 1,000 -- for turbines with a 14 turbine rating between 1,000 and 4,000 will now read 15 between 1,000 and 4,100 horsepower. And below that, the 16 next line, that 4,000 will be revised to read 17 4,100 horsepower to 15,000 horsepower. 18 And that addresses an issue with a turbine 19 from -- that Solar manufactures that doesn't have the 20 space allotment for -- for a lower emission for -- for 21 dry NOx burn application. 22 The second table before you has similar types 23 of clarifying edits made to clear up the intent -- or 24 the state -- the language in this part. 25 Similarly, we received comments on the
1688 1 Paragraph (3) by the date specified in Paragraph (3). 2 So similar to the schedule that we've provided 3 for engines, we have provided a schedule for turbines to 4 comply over a period of time, as I indicated previously. 5 So owners and operators must develop a schedule by 6 January 1st, 2023 -- or by -- excuse me -- by July 1st, 7 2023, and in order to meet this -- the scheduled -- the 8 timelines or the deadlines of (a)(i) through (iii). 9 So by January 1st, 2024, owners and operators 10 must ensure that at least 30 percent of their existing 11 turbines meet the standards. And by January 1st, 2026, 12 at least an additional 35 percent must meet the 13 standards. And by January 1st, 2028, they must ensure 14 that the remaining 35 percent meet the emission 15 standards. 16 Similar to the engine concept, we have an 17 authorization for owners and operators to reduce their 18 hours of operation of a turbine in order to meet an 19 equivalent ton per year reduction of emissions. 20 This is Table 3 before you, and it establishes 21 the emission standards for both the new and existing 22 turbines. 23 The top half of the table establishes the 24 emission standards for existing turbines. We've added a 25 few clarifying words to -- into the instructions that	1690 1 feasibility of these emission limits for turbines in New 2 Mexico, and we made revisions based on that -- on that 3 testimony that's been provided by those stakeholders. 4 MS. KATZ: Do you want to -- so this -- so, 5 Ms. Kuehn, can you just discuss what the -- the 6 Alternative Compliance Plan revisions are? 7 MS. BISBEY-KUEHN: Sure. So we're getting 8 towards the end of Subsection B that establishes the 9 emission standards again for engines and turbines. 10 We have modified Paragraph (9) to specifically 11 identify the federal regulations that define emergency 12 use engine, which we think is appropriate, and that 13 change has been made. 14 And in addition, we've created a new Paragraph 15 (10) that provides an overview of what the intent of the 16 Alternative Compliance Plan is and what it does. 17 And we're going to be going through that now, 18 and I really apologize for this lengthy slide. There's 19 going to be several lengthy slides covering this topic. 20 And I won't go through -- I won't read this for you 21 verbatim, but -- since I've already gone and provided a 22 high-level overview. 23 But again the Alternative Compliance Plan 24 allows owners and operators to determine an alternative 25 method of compliance for an engine or turbine fleet.

1691 1 And so long as those reductions are equivalent to the 2 emission standards and they follow the prereview by the 3 third-party consulting firm and that plan is posted for 4 public notice and owners and operators are obligated to 5 address any issues, the Department finds that this is a 6 reasonable alternative to meeting the formal numerical 7 emission standards under this part. 8 MS. KATZ: And I'll just note that we are 9 missing some of the paragraphs for the actual 10 Alternative Compliance Plan on these slides. You can 11 find the full paragraph list of Paragraph (10), I 12 believe, in -- in the rule. 13 MS. BISBEY-KUEHN: I think that I got 14 everything in here. 15 MS. KATZ: Okay. I'm just seeing Paragraph 16 (10), and I'm not seeing the subparagraphs to it, in the 17 slides. 18 MS. BISBEY-KUEHN: Oh, I'm sorry. Okay. 19 MS. KATZ: Yes. 20 MS. BISBEY-KUEHN: No. I did -- 21 MS. KATZ: So -- 22 MS. BISBEY-KUEHN: Okay. So -- 23 MS. KATZ: I was just pointing that out. 24 MS. BISBEY-KUEHN: -- those -- yeah. Thank 25 you for that.	1693 1 circumstances. 2 And the request for an alternative emission 3 standard must follow the same provisions that we've 4 outlined for the Alternative Compliance Plan. 5 And this slide speaks to a new Paragraph (12) 6 that we inserted, as well, that allows for short-term 7 replacements of engines, for any engine subject to this 8 part, consistent with the air quality permits containing 9 provisions for those short-term replacement engines. 10 So that is -- that is a concept that currently 11 exists in our NSR permitting program, and it allows a 12 short-term replacement engine to be utilized so long as 13 the emissions from the unit are less -- are equal to or 14 less than the original unit and the air dispersion 15 properties of the stack tests and the pollutants that 16 are emitted from a stack are equivalent -- from an 17 equivalent amount of buoyancy, heat, velocity and other 18 parameters. 19 So this -- this is simply aligning with a 20 requirement that's already provided for in -- in our 21 permits. 22 MS. KATZ: Can you briefly summarize the 23 revisions that were made for the monitoring requirements 24 for engines and turbines? 25 MS. BISBEY-KUEHN: Yes. Thank you.
1692 1 So I did go -- I did discuss in detail kind of 2 what those already contain, and I can -- if it's 3 helpful, I can bring that up on a separate slide. That 4 is an oversight. Okay. 5 But essentially it's -- you know, owners and 6 operators are required to send the proposal to a third 7 party for evaluation, they make -- they address the 8 reasonableness and appropriateness of the proposal, make 9 their findings available to us, then which we post on 10 the web site and make that available for public comment. 11 So I won't -- I won't go through that again, 12 but we are -- we're now at the second alternative, which 13 is the alternative emission standard, which is separate 14 from the Alternative Compliance Plan, in that the 15 alternative emission standard is a -- is a standard that 16 is set for a specific engine or turbine that is unable 17 to comply under an Alternative Compliance Plan. 18 And we did not think it was reasonable to just 19 simply exempt those units from requirements under this 20 part. We believe that those engines and turbines should 21 go through a technical and economic justification to 22 determine what emission standards those -- those units 23 could meet, could achieve, and -- and that the 24 Department would then issue a federally enforceable 25 alternative emission standard for those specific	1694 1 So in each section of the rule, we have 2 Paragraph C, which is the monitoring requirements. 3 These are the monitoring, the inspections and the 4 testing and other test -- parametric monitoring 5 requirements that are -- that owners and operators must 6 comply with in order to demonstrate compliance with the 7 numerical emission standard of the -- of this part. 8 So we have received several comments on this 9 section. We've made -- we've aligned things better 10 to -- to move -- we've moved, for instance, that first 11 bit of language that's -- that was struck out, that 12 required units to be documented if they were taken out 13 of -- taken out of use for routine maintenance or 14 unscheduled repairs for more than 24 hours. That has 15 been removed. That was -- that's actually a 16 recordkeeping requirement, and that is now covered under 17 recordkeeping. 18 Similarly, we had requests for -- from 19 operators that are maintaining equipment that's 20 consistent with an applicable federal New Source 21 Performance Standard or National Emission Standard for 22 Hazardous Air Pollutant requirement to be deemed in 23 compliance with this maintenance requirement, and we 24 agree that's -- that that is a reasonable provision. 25 We've made other minor modifications to this

1695 1 Paragraph C that -- that requires simply that owners and 2 operators operate their catalytic converters in 3 accordance with the manufacturer specifications. 4 And Paragraph (4) has been amended to specify 5 when the initial compliance testing requirements must be 6 conducted. So this revised language now clarifies when 7 those tests must be conducted for both equipment 8 that's -- that was existing, and then also there's a 9 provision for equipment that's constructed after the 10 source. Those were both -- those were good, necessary 11 additions to revise those testing requirements. 12 In addition, we had a request to use an 13 alternative load calculation methodology than what is 14 provided above. We agreed that there are a variety of 15 ways to calculate load and that we are agreeable to -- 16 to those alternative methods. 17 This subparagraph (a) requires at what load 18 the engines testing or turbine testing must be done at. 19 As you can see, it's within 10 percent of 100 percent 20 peak or the highest achievable load. We agree that that 21 insertion of that language clarified and did not -- did 22 not change or did not weaken the requirement, but did 23 say essentially what we had in fewer words. And we 24 agree with that -- with that revision. 25 The rest of these requirements from (b)	1697 1 and so we're just adopting those similar types of 2 revisions throughout this -- this set of requirements. 3 So changes to this paragraph included the 4 striking of the requirement to scan the equipment 5 monitoring tag. This has been replaced with the date 6 and the time stamp of the event which we discussed under 7 the general provisions section. 8 Sub -- or Paragraph D or the recordkeeping 9 requirements, and these are very minor clarifications 10 that we think that are -- better spell out kind of the 11 intent of what the requirements are. So there's nothing 12 really substantive with any of these revisions before 13 you. 14 And similar to this -- this slide, these are 15 the record -- general recordkeeping requirements that an 16 owner or operator must make during a -- an emission 17 test. So that's what covered -- what is covered under 18 (2)(a) through (2)(g). 19 And if there's any specific questions, I'm 20 happy to answer those, but I won't -- I won't read you 21 what is right before you on the slide. 22 MS. KATZ: And I think it's (h) now, right? 23 (a) through (h). 24 MS. BISBEY-KUEHN: Yes. Yeah. (a) through -- 25 thank you.
1696 1 through (e) specify how testing must be conducted, the 2 default time period for a test run, how many tests must 3 be conducted and how pollution and concentrations must 4 be monitored and recorded during the test. 5 Similarly, the next few paragraphs on my slide 6 just provide additional detail on how testing must be 7 conducted. 8 We had an insertion of Paragraph (i) here, 9 which we agree with. Carbon monoxide is used as a 10 surrogate pollutant for volatile organic compounds in 11 other federal regulations, and we agree that that's 12 appropriate. So this paragraph formalizes that. The 13 Department agrees that the results of emissions testing 14 demonstrating compliance with the emission standard for 15 CO may be used to demonstrate compliance with the 16 emission standard for nonmethane, nonethane 17 hydrocarbons. 18 And we did have a request to strike the first 19 clause of this condition in (i), to strike "for 20 emissions testing using a portable analyzer." The 21 Department agrees and will make that -- will make that 22 change. So the use of CO as a surrogate is true 23 regardless of the type of testing that's conducted. 24 The other minor clarifications are being 25 carried over from previous revisions that we've made,	1698 1 Again so the modifications to Paragraph (3) 2 simply adopt other provisions we'd -- revisions made 3 elsewhere, and same with those that are the revisions 4 that were made to Paragraph (4). 5 That is the conclusion of this presentation. 6 HEARING OFFICER ORTH: Thank you, Ms. Kuehn 7 and Ms. Katz. 8 So as I understand it, we're going to proceed 9 through the witnesses of the other parties before Board 10 questioning. 11 Does that also apply to party questioning, 12 Ms. Katz, or only Board questioning? 13 MS. KATZ: Ms. -- Madam Hearing Officer, I 14 think you might want to make sure with the rest of the 15 parties, because I wasn't certain that engines was one 16 of the topics that we were going to be doing -- putting 17 every party on. I'm fine with that, but if -- I don't 18 know how the other parties feel about that, with this 19 topic. 20 HEARING OFFICER ORTH: Okay. Specifically as 21 to Section 113, my understanding is that we were going 22 to hear from NMOGA, IPANM, Kinder Morgan, GCA, CDG, and 23 on Friday the National Park Service. 24 MS. KATZ: Correct. And I think that this was 25 one of the larger topics that maybe we weren't going to

1699 1 try to present all the parties before Board questions 2 necessarily. But again I'll defer that over to the 3 other parties. 4 HEARING OFFICER ORTH: All right. 5 I see Ms. Gutierrez on the screen. 6 Ms. Gutierrez? 7 MS. GUTIERREZ: Thank you, Madam Hearing 8 Officer. 9 I do have a few questions for Ms. Kuehn, and 10 I'm happy to ask them later if that -- if the Board and 11 parties think that that would be best, or, Ms. Katz, you 12 direct me on the next best step here. 13 MS. KATZ: So my understanding that -- is that 14 cross would still be done of the witnesses as a -- of 15 each party's witnesses as a panel, so not as the 16 Department does, so our witnesses would be offered for 17 cross, but then the difference is whether then the Board 18 then asks some questions or whether we wait until all 19 the parties go and then the Board asks questions. 20 HEARING OFFICER ORTH: All right. Thank you. 21 Mr. Butzier, comments? 22 MR. BUTZIER: Yeah. Thank you, Madam Hearing 23 Officer. 24 We don't have an opinion one way or another on 25 which is the best approach. So we're willing to go with	1701 1 That's what I understand you want to do, 2 Ms. Katz. 3 MS. KATZ: I'm -- I mean, I'm okay either way. 4 If the other parties are okay waiting for Board 5 questioning, then -- then I think that that's warranted. 6 I still think that probably the other party questioning 7 should happen now after each party. 8 HEARING OFFICER ORTH: All right. 9 So, Mr. Hiser, if you would please go ahead. 10 MR. HISER: Thank you, Madam Hearing Officer. 11 CROSS-EXAMINATION 12 BY MR. HISER: 13 MR. HISER: I have, I guess, one question 14 for -- and I think it's for Ms. Kuehn, but it may be for 15 Ms. Kuehn and Mr. Palmer jointly. 16 And that is that you mentioned in your 17 testimony that NMED had looked to a number of other 18 state programs, and I think you mentioned perhaps 19 Colorado and Pennsylvania's GP-5 permit program. And 20 then the Department showed and we appreciate a number of 21 changes to your initial proposal, leading to the 22 September 16th proposal. 23 Is the -- is the reason that we see changes 24 because in part the Department recognized that like the 25 GP-5 permit program might have other exemptions or off
1700 1 whatever other folks prefer. 2 HEARING OFFICER ORTH: All right. Thanks. 3 Ms. Fox? 4 MS. FOX: Thank you, Madam Hearing Officer. 5 I just wanted to remind everybody that we do 6 have a surrebuttal witness on engines, Dr. Orozco, on 7 Wednesday, and given his tight schedule, it would be 8 better for him to be crossed at the time that he gives 9 his surrebuttal and for the Board to ask questions 10 rather to bring -- instead of bringing him back, if 11 that's possible. 12 HEARING OFFICER ORTH: All right. Thank you 13 for that. 14 So let's proceed, then, I guess, with -- oh, I 15 see Mr. Hiser. 16 Mr. Hiser? 17 MR. HISER: I have nothing to add, just is if 18 you were doing questions now, I will have a question. 19 Otherwise I'm happy to wait. 20 HEARING OFFICER ORTH: Okay. Stay on the 21 screen, then. 22 I think probably the best thing to do is to 23 have party questioning and Board questioning as to 24 Section 113 and not try to do collective questioning 25 until we get to 114 through 126.	1702 1 ramps that were not initially recognized in your review 2 of those programs, or you determined that those programs 3 regulated units that are different in fuel type or scale 4 from those used in New Mexico? 5 MS. BISBEY-KUEHN: Yes. 6 MR. HISER: That was my only question, Madam 7 Hearing Officer. 8 HEARING OFFICER ORTH: All right. Thank you. 9 Ms. Gutierrez, do you have questions? 10 MS. GUTIERREZ: I do. Thank you, Madam 11 Hearing Officer. 12 CROSS-EXAMINATION 13 BY MS. GUTIERREZ: 14 MS. GUTIERREZ: Ms. -- I think all of these 15 questions are going to be for Ms. Kuehn. 16 Thank you, Ms. Kuehn, for your testimony on 17 engines and turbines. 18 My questions are really clarifying questions 19 that relate to the alternate compliance options just to 20 make sure that we understand the process. 21 In Paragraph B.(10)(a), the alternate 22 compliance option asks the operator work with a 23 third-party consultant to prepare that underlying 24 analysis, and then (10)(d), the Department is asking the 25 proponent of the alternate option to assist in -- with

1703 1 responses to questions. Both of these paragraphs are 2 referenced in Paragraph (11) so they'd apply in either 3 of the ACP or the AES process. 4 The question is are these provisions intended 5 to assist the Department in the face of resource 6 constraints, but ultimately the final decision will be 7 that of the Department's? 8 MS. BISBEY-KUEHN: That's correct. 9 MS. GUTIERREZ: Great. Thank you. 10 With regard to a showing of economic 11 feasibility in Paragraph B.(11), is it the Department's 12 expectation that an operator could show and should use 13 standard methodologies developed by EPA, for example, 14 under its Cost Control Manual to determine cost 15 effectiveness? 16 MS. BISBEY-KUEHN: Yes. That would be an 17 acceptable method. 18 MS. GUTIERREZ: Thank you. 19 And is it true that in the recent past, I 20 think it was 2019, in the context of regional haze 21 rulemaking, NMED determined that an appropriate 22 anticipated cost effective threshold for ton of NOx 23 reduced would be equal to or less than \$7,000 per ton? 24 MS. BISBEY-KUEHN: The Department developed a 25 screening threshold for modeling analysis that was	1705 1 such modifications meet the definition of reconstructed 2 source such that the source should be considered a new 3 source under federal regulation. 4 In conducting this analysis, is it the 5 Department's expectation that the operator would be 6 relying on EPA guidance regarding whether a modification 7 was triggered pursuant to federal regulation? 8 MS. BISBEY-KUEHN: Yes. 9 MS. GUTIERREZ: And then just taking a step 10 back, and from a bigger picture perspective, can you 11 help me understand what is the purpose of this 12 particular analysis as a part of this section? 13 MS. BISBEY-KUEHN: It's an affirmative 14 demonstration by an owner or operator that they have not 15 reconstructed the engine or modified the engine such 16 that they've triggered reconstruction as the term is 17 used on federal Clean Air Act. 18 MS. GUTIERREZ: So then let's say an operator 19 completes this evaluation and determines in 2010 the 20 turbine was modified, meets the definition of a 21 reconstructed source and for purposes of federal law as 22 new as of 2010. 23 How would that impact this analysis under this 24 rule, meaning would that turbine still be considered 25 existing for purposes of the effective date of this Part
1704 1 \$7,500 per ton, I believe. So that wasn't the cost 2 effectiveness threshold necessarily, but a screening 3 threshold that was used to determine what sources should 4 be modeled. 5 MS. GUTIERREZ: Okay. 6 And would you agree that that threshold, that 7 cost effectiveness was consistent with thresholds that 8 we've seen determined by other regulatory agencies, both 9 state and federal, when implementing control standards 10 for NOx reductions? 11 MS. BISBEY-KUEHN: There -- there's a range of 12 accepted cost effectiveness values. It depends on the 13 source type. 14 MS. GUTIERREZ: But in general, they were -- 15 we've consistently seen -- do you agree that we've 16 consistently seen cost per ton somewhere around, you 17 know, Pennsylvania's 3,000 or 3,500, 7,000 in -- 7,500 18 in New Mexico? 19 MS. BISBEY-KUEHN: Yes. 20 MS. GUTIERREZ: Okay. Thank you. 21 And I do have one last set of questions, and 22 they relate to Paragraph B.(11)(c). This section asks 23 for technical analysis, which makes sense, but it also 24 specifically asks for technical analysis of any previous 25 modifications of the source and a determination whether	1706 1 50? 2 MS. BISBEY-KUEHN: Correct, if that analysis 3 occurred in 2010 and that unit had been treated as new 4 at the time that the analysis was done. 5 MS. GUTIERREZ: Okay. So the focus really is 6 between the effective date and some time in the future 7 to ensure that the unit has not been reconstructed under 8 federal regulation. 9 MS. BISBEY-KUEHN: Yes. 10 MS. GUTIERREZ: Okay. 11 Thank you. I think that sums up my questions. 12 Thank you very much, Ms. Kuehn. 13 HEARING OFFICER ORTH: Thank you. 14 Mr. Rose? 15 MR. ROSE: Thank you, Madam Hearing Officer. 16 CROSS-EXAMINATION 17 BY MR. ROSE: 18 MR. ROSE: Just a couple of questions. One's 19 a follow-up, I think, to Ms. Gutierrez' question in 20 terms of reconstruction in federal law. 21 Are you referring to the federal New Source 22 Performance Standard program in the regs at 40 CFR Part 23 60, or are you looking at some other federal definition 24 to make the decision on when a source has been 25 reconstructed for purposes of this rule?

1707 1 MS. BISBEY-KUEHN: We're referring to the 2 federal New Source Performance Standards definition of 3 reconstruction. 4 MR. ROSE: Okay. Thank you. 5 And in terms of the proposal here, just want 6 to get some clarification on the -- on to what 7 factors -- whether -- well, let me start again. 8 Have you quantified the difference in expected 9 emissions reductions from your current proposal than the 10 one that was published when the hearing started, the 11 original petition proposal? Have you looked at what 12 differences your changes may have in terms of emissions 13 reductions, and have you quantified those? 14 MS. BISBEY-KUEHN: Yes. 15 MS. KATZ: And I believe that's a question for 16 Mr. Palmer, as well. 17 MR. ROSE: Yeah. Either -- from my 18 perspective, either can answer. It's fine. 19 MS. BISBEY-KUEHN: Mr. Palmer may have that 20 number before him. I don't have that number. 21 MR. ROSE: I wasn't looking for the exact 22 number, but that's fine. 23 MS. BISBEY-KUEHN: Oh, okay. 24 MR. ROSE: Just that you did it. 25 MS. BISBEY-KUEHN: We did the analysis. Yes.	1709 1 cost effectiveness determinations, or whatever you want 2 to call them. 3 Did you identify or explain what criteria you 4 applied to determine whether costs were cost effective? 5 The prior version of the statute basically 6 incorporated the federal definition of reasonably 7 available control technology, but that's been removed, 8 and I'm curious as to what criteria the Department -- if 9 it did, what criteria you applied to determine whether 10 or not the reductions were justified or the costs were 11 justified by the reductions or if, in fact, you did 12 provide -- apply some criteria. 13 MS. BISBEY-KUEHN: Mr. Palmer, do you want to 14 answer that? 15 I can say that we followed standard accepted 16 cost effectiveness methodologies, and we referred to 17 many existing regulations on federal New Source 18 Performance Standards on what was an accepted cost 19 effectiveness dollar. And all of that is spelled out in 20 great -- in detail in great amounts of detail in each of 21 the cost spreadsheets in our direct testimony. 22 MR. ROSE: And I don't know if Mr. Palmer 23 wants to add to that or not. I guess I'll let him 24 decide, but -- 25 MS. KATZ: I guess, Mr. Rose, I'd ask if you
1708 1 Thank you. 2 (Simultaneous discussion.) 3 MS. KATZ: It was just -- it was just a yes or 4 no, I believe, right? 5 MR. ROSE: Yes. I mean, if he has it, that's 6 fine, but I wasn't looking -- 7 MR. PALMER: I've got it. 8 MR. ROSE: -- to identify the actual what the 9 changes were. 10 MR. PALMER: Yeah. Because we -- the original 11 emission limits were very aggressive, as you -- I think 12 you'll probably agree, and so the estimated emission 13 reductions went from about 18,000 ton per year of NOx to 14 about 5,000 ton per year of NOx. 15 MR. ROSE: And -- and I gather -- and maybe 16 you're not the right person to ask, or Ms. Kuehn is. 17 Did the Department have the modelers go back 18 and figure out what the difference would be in terms of 19 ambient ozone concentrations for this change or any of 20 the other changes that we're going to talk about later? 21 MS. BISBEY-KUEHN: The model was not rerun 22 after the revisions were made to the -- to the proposal. 23 MR. ROSE: Thank you. 24 And one other clarification. 25 In response to Ms. Gutierrez, you talked about	1710 1 have specific issues with again what was laid out 2 extensively in our direct and rebuttal testimony, it 3 would be helpful to point to that. 4 MR. ROSE: What I was looking for wasn't so 5 much the explanation as to was there a standard 6 methodology by which you drew lines or did you look at 7 each section individually and make judgments as to cost 8 effectiveness. 9 MS. KATZ: And I believe that that's all 10 spelled out in the testimony. 11 MR. ROSE: It was as to the direct. I'm just 12 wondering whether that approach changed in terms of what 13 you're now proposing as changes in response to other 14 proposals. 15 MS. KATZ: And again I believe that the 16 Department made that all very clear in its rebuttal 17 testimony, in terms of its changes. 18 MR. ROSE: Well, as I -- 19 MS. KATZ: -- that it made in response to the 20 testimony that was provided. 21 MR. ROSE: It's my understanding, though, that 22 there have been some additional changes to particularly 23 this section and maybe to others since the revised -- 24 MS. KATZ: Do you want to point out -- do you 25 want to point to what those are?

1711 1 MR. ROSE: I was looking at more generally, 2 was the same set of criteria applied, or did you, in 3 fact, do an economic analysis of these most recent 4 proposed changes. 5 MS. KATZ: That were proposed by industry? Is 6 that what you're asking? 7 MR. ROSE: That you're incorporating in the 8 draft we just saw the red-line/strike-out for. 9 MS. KATZ: Do you -- again do you want to ask 10 about a specific provision? Because we've testified 11 about each of those suggestions. 12 MR. ROSE: And I was just more interested in 13 generally what was applied, not as to specific 14 proposals, if there was something that was generally 15 applied, and whether or not they will be -- that -- that 16 criteria will be applied in subsequent sections. So I 17 don't have to ask the same question on the subsequent 18 sections. 19 MS. KATZ: I mean, I believe that they -- 20 we've already -- the witnesses have already walked 21 through and stated the basis for the revisions that were 22 made. 23 MR. ROSE: And what I was looking at in terms 24 of an economic analysis was further analysis given to 25 those changes as opposed to what was in your rebuttal	1713 1 HEARING OFFICER ORTH: Mr. Palmer, do you 2 understand the question, and can you answer it? 3 You're muted. Okay. Now. 4 MR. PALMER: Okay. Thank you. Thank you. 5 Sorry. 6 In terms of engines, we -- the revised limits 7 are based on the achievability of the technology that is 8 reflected in the testimony we received. And that 9 inherently reflects the cost effectiveness of that 10 technology and doesn't -- so we didn't go into more 11 detail than that necessarily. 12 MR. ROSE: Okay. That's what I was looking 13 for, to see if there was more detail than as to those 14 changes like you did with the others. 15 Thank you, Madam Hearing Officer. That's all 16 the questions I have. 17 HEARING OFFICER ORTH: All right. Thank you, 18 Mr. Rose. 19 Any other questions by counsel or parties? 20 I see Mr. Baake. 21 Mr. Baake? 22 MR. BAAKE: Oh, thank you, Madam Hearing 23 Officer. 24 25
1712 1 testimony, and if so, what -- what that analysis was, 2 because you -- as I view this, you've made changes, 3 obviously, since rebuttal was filed. So just wanted to 4 make sure that those are factored into -- that it hasn't 5 changed the analysis that, in fact, has been testified 6 to. 7 MS. KATZ: On the costs? Is that what you're 8 referring to? 9 MR. ROSE: Correct. And cost effectiveness 10 generally. 11 MS. KATZ: I believe in some instances it has. 12 Brian -- Mr. Palmer, do you -- do you have 13 anything to say about that? 14 I guess, are we talking about all the rule 15 sections, or are we just talking about engines and 16 turbines here? 17 MR. ROSE: Well, my understanding is that if 18 the same criteria applied to all the others, then 19 that -- we don't have to ask that with respect to the 20 others. I'm just wanting to see if the methodologies 21 change or if you applied the same methodology to these 22 changes that you did -- that was testified to in your 23 direct and rebuttal. If you did a cost effective 24 analysis on the additional changes you're now 25 recommending.	1714 1 CROSS-EXAMINATION 2 BY MR. BAAKE: 3 MR. BAAKE: I just have a somewhat technical 4 question. Hopefully -- I'm not sure Ms. Kuehn or 5 Mr. Palmer, who best to answer this. 6 But I'm trying to understand this discussion 7 of the Ohio stack emissions data that was discussed in 8 the surrebuttal as a basis for relaxing these standards. 9 So I did -- I did see the link, but maybe give 10 me a little bit of an idea. What are these -- what type 11 of engines are included in this database? 12 MR. PALMER: Yeah. I can -- I can answer 13 this. 14 MS. BISBEY-KUEHN: Okay. 15 MR. PALMER: These are natural gas-fired 16 compressor engines located in Ohio, and some of them are 17 subject to annual testing, some of them are subject to 18 periodic testing. And so we were able to look at those 19 data from Ohio, and they're comparable, they're -- to 20 the engines in Colorado. 21 And so we looked at those data by engine type 22 and also by horsepower, and then compared that 23 information in those data to the information in the 24 technical testimony submitted in response to the rule, 25 and compared the emission limits in that Ohio data -- or

1715 1 the achievable emission rates in those -- in that Ohio 2 data to the limits that have been proposed and that were 3 discussed in the technical testimony, and then used that 4 to help support the development of the final rules. 5 MR. BAAKE: Well, I guess my question was -- 6 that I didn't understand is -- 7 MR. PALMER: Um-hum. 8 MR. BAAKE: -- are these engines in Ohio 9 firmly implementing all possible NOx controls that were 10 discussed in -- elsewhere in the testimony? 11 MR. PALMER: Yes. Yep. 12 MR. BAAKE: So -- okay. So those engines 13 would be implementing -- and is that under a state 14 regulation or new source -- or a nonattainment 15 regulation, or what -- 16 MR. PALMER: It's -- it appears to be under a 17 variety of things. There's one column -- there's a fair 18 amount of detail in the Ohio data, and it often lists 19 what limit the engine is subject to and the basis for 20 it. A lot of them are subject to NSPS. Some of them 21 are subject to -- it appears to be a RACT limit. 22 MR. BAAKE: Okay. 23 So -- so there would -- all of them would be 24 subject to -- subject to catalytic reduction, for 25 example?	1717 1 HEARING OFFICER ORTH: Thank you. 2 Vice-Chair Trujillo Davis? 3 VICE-CHAIR TRUJILLO DAVIS: Thank you. I 4 don't have any questions at this time either. 5 HEARING OFFICER ORTH: All right. 6 Member Cates? 7 MEMBER CATES: No questions at this time. 8 Thank you. 9 HEARING OFFICER ORTH: Thank you. 10 Member Bitzer? 11 MEMBER BITZER: No questions. Thank you. 12 HEARING OFFICER ORTH: Thank you. 13 Member Duval? 14 I believe he had to step away for class. 15 Member Garcia? 16 MEMBER GARCIA: No questions. Thank you. 17 HEARING OFFICER ORTH: Thank you. 18 And Member Honker. 19 MEMBER HONKER: No questions. Thanks. 20 HEARING OFFICER ORTH: All right. Thank you. 21 We have been going a little more than two 22 hours. So let's take a break and return at 11:20, 23 please. 24 (Proceedings in recess from 11:06 a.m. to 25 11:20 a.m.)
1716 1 MR. PALMER: Those engines, if you look at the 2 data in Ohio, they are not using SCR. They're using 3 NSCR, but not selective catalytic reduction. 4 MR. BAAKE: Okay. 5 So I guess my -- just so I'm trying to 6 understand it analytically. So those -- those engines 7 in Ohio, if you wanted to reduce NOx further from them, 8 your understanding is it's not -- wouldn't -- there's no 9 technical way you could do that. So that's why that's a 10 good baseline, understanding what differentiation. 11 That -- am I understanding that? 12 MR. PALMER: I -- I think so. 13 MR. BAAKE: That's all of the -- that's the 14 only thing I wanted to have clarified for now. 15 Thank you so much. 16 HEARING OFFICER ORTH: Thank you. 17 Any other parties or counsel have questions of 18 the Department panel? 19 I don't see anyone else on the screen. 20 I'm going to turn to the Board. 21 If you're an attendee on this platform and 22 have a question, please reach out through chat. 23 Madam Chair, do you have questions? 24 CHAIR SUINA: Thank you, Madam Hearing 25 Officer. I don't have any questions at this time.	1718 1 MR. HISER: Madam Hearing Officer, if you'd 2 like to look for a Justin Lisowski. He will be the 3 NMOGA witness. 4 HEARING OFFICER ORTH: I will do that. 5 Jill, Jim, Jim, Julia, Justin. Got it. 6 MS. KATZ: Madam Hearing Officer? 7 HEARING OFFICER ORTH: Yeah. 8 MS. KATZ: I was going to do a little 9 redirect. 10 MR. HISER: Oh. 11 HEARING OFFICER ORTH: Yeah. I'm sorry. I 12 did manage to rush past that, didn't I -- 13 MS. KATZ: Thank you. 14 HEARING OFFICER ORTH: -- before we -- before 15 we took a break. 16 Go ahead, Ms. Katz. 17 REDIRECT EXAMINATION 18 BY MS. KATZ: 19 MS. KATZ: Okay. Just quickly for Mr. Palmer, 20 did the other parties present testimony regarding the 21 cost effectiveness of certain proposals and request 22 revisions based on that cost effectiveness? 23 MR. PALMER: Yes, they did. 24 MS. KATZ: As well as technical feasibility? 25 MR. PALMER: Yes, they did.

1719 1 MS. KATZ: And if the Department accepted a 2 revision from an industry party, would it be safe to 3 assume that the costs would come down and that it would 4 be technically feasible? 5 MR. PALMER: Yes, both. 6 MS. KATZ: Okay. Thank you. 7 That's all I have. 8 HEARING OFFICER ORTH: All right. Thank you, 9 Ms. Katz and Mr. Palmer. 10 Mr. Hiser. Let's get you back. 11 MR. HISER: Thank you, Madam Hearing Officer. 12 Our next witness will be Justin Lisowski. 13 HEARING OFFICER ORTH: All right. 14 If Mr. Lisowski would join us on screen, or 15 join you on screen, I suppose, and spell his name for 16 us. 17 MR. LISOWSKI: Do I sound all right? Can 18 everybody -- can everyone hear me here? 19 HEARING OFFICER ORTH: Yes. 20 MR. LISOWSKI: Perfect. 21 Yeah. My name is Justin Lisowski, and that's 22 a standard spelling for Justin, Lisowski is spelled 23 L-I-S-O-W-S-K-I. 24 HEARING OFFICER ORTH: Thank you. 25 If you would raise your right hand.	1721 1 University with a bachelor of science in mechanical 2 engineering, as well as a master's of science in 3 mechanical engineering. My master's research was 4 establishing a set of tools, diagnostic tools to 5 evaluate precombustion chamber retrofits in large bore 6 natural gas engines, in efforts to create a tool to 7 improve the emissions of those prechambers. 8 My professional career was spent most of my 9 time in the upstream operator, Encana Oil & Gas, which 10 is now Ovintiv Incorporated. And I had a series of 11 engineering positions, all of them in a facility type 12 role or rotating equipment. I spent most of my time 13 with Encana as a rotating -- rotating equipment 14 engineer, as well as a manager of a rotating equipment 15 team focused on -- similar to what we're talking about 16 right here, you know, looking at ways to make sure that 17 we're complying with our -- with our emissions criterias 18 on our -- on our engines, as well as finding solutions 19 to -- to meet those emissions standards. 20 In 2001 I started at Valor EPC, and I wear 21 multiple hats at Valor, but my primary responsibilities 22 is a senior project manager and a rotating equipment 23 engineer. 24 And then in 2018 I received my PE, or 25 professional engineering licensure, in the State of
1720 1 Do you swear or affirm to tell the truth? 2 MR. LISOWSKI: I do. 3 HEARING OFFICER ORTH: Thank you. 4 Go ahead, Mr. Hiser. 5 JUSTIN LISOWSKI 6 (Relating to Topic Order 24) 7 having been first duly sworn or affirmed, was 8 examined and testified as follows: 9 DIRECT EXAMINATION 10 BY MR. HISER: 11 Q. So, Mr. Lisowski, can you tell us what your 12 involvement is in this proceeding? 13 A. Sure. So the New Mexico Oil and Gas 14 Association asked my employer, Valor EPC, to analyze the 15 NMED proposed rules. And so my subject expertise is 16 engines, turbines and compressors, and so look at it 17 with associated doc -- and the associated documents and 18 draft a technical commentary focused on technical 19 infeasibility, impracticality and economic challenges. 20 Q. Is NMOGA Exhibit Number 31, which was 21 previously admitted, an accurate copy of your resume? 22 A. Yes, it is. 23 Q. And could you please state your qualifications 24 as they relate to your participation in today's hearing? 25 A. Sure. I graduated from Colorado State	1722 1 Colorado. 2 Q. Thank you. 3 Do NMOGA Exhibits A3 and 43 reflect your 4 direct and rebuttal technical testimony filed in this 5 matter? 6 A. Yes. That's correct. 7 Q. Do you have any changes to those exhibits? 8 A. No. 9 Q. And you adopt them as your direct and rebuttal 10 testimony in this matter? 11 A. I do. 12 Q. Okay. 13 Did you rely on NMOGA Exhibits 4, 6, 8, 9, 31 14 and 43 as sort of supplements to your primary testimony? 15 A. I did. 16 Q. And have you prepared a summary of your direct 17 and rebuttal testimony? 18 A. I have. 19 Q. Okay. 20 And do you have some slides that you'd like to 21 share with the Board this morning? 22 A. I do. And I'll attempt to share them on the 23 platform. 24 Q. Make sure that Madam Hearing Officer has 25 enabled you as a presenter first.

1723 1 A. Okay. That will be helpful. 2 THE REPORTER: And Mr. Lisowski, this is the 3 court reporter. 4 I'm going to ask you to slow down speaking a 5 little bit for me. 6 MR. LISOWSKI: Okay. I will do my best. Just 7 holler if I'm getting a little carried away. 8 THE REPORTER: I can't holler. They always 9 mute me. So -- 10 MR. LISOWSKI: Okay. 11 THE REPORTER: -- please try. 12 MR. HISER: Ms. Orth. 13 HEARING OFFICER ORTH: Yes, sir. 14 MR. HISER: You did. Okay. Thank you. 15 MR. LISOWSKI: You should get -- can I 16 adjust -- 17 MR. HISER: Justin, can you make that bigger? 18 MR. LISOWSKI: Yes, sir. 19 How's that? 20 MR. HISER: No. We're seeing your presenter 21 view. So -- 22 MR. LISOWSKI: Well, let me just swap the 23 screen real quick. Give me one moment. 24 I'm not quite sure. Let's see. 25 MR. HISER: Sometimes you have to go back out	1725 1 Department's position. 2 A. Yes. 3 Q. Correct? Okay. 4 With that, maybe we can dispense with those 5 things that have been reached agreement between industry 6 and the Department and maybe just focus a little bit on 7 some of the differences between the types of engines and 8 turbines and how that will be relevant for the Board's 9 consideration, just so they understand how these engines 10 work as they're given a bunch of technical testimony. 11 A. Absolutely, yes. So I'm going to -- can I 12 just touch on a couple of these topics based upon what 13 you mentioned there, and -- and try to add some 14 additional information for the Board so that as they're 15 getting additional testimony they've got some 16 information that helps with context. 17 I think the most important context and 18 information to provide would be around LEC, NSCR and SCR 19 technology, just to kind of help dispel some -- some 20 assumptions that might have been made either 21 inadvertently or intentionally by various parties 22 involved in this. 23 And the LEC is considered your -- low emission 24 control technologies, and it's been, you know, greatly 25 simplified, and it's much complex than other testimony
1724 1 and then reshare. 2 MR. LISOWSKI: Yeah. 3 How's that? 4 MR. HISER: Thank you. We can see your slides 5 now. 6 Q. Mr. Lisowski, is it safe to say that there 7 were a number of initial issues that were flagged by you 8 and other industry parties with the first proposal from 9 the New Mexico Environment Department? 10 A. Yes. I would say -- and that was what my 11 primary testimony was based upon. Yes. 12 Q. And so if we look at your next slide, is that 13 sort of the summary of the number of issues that have 14 been discussed between you and other -- and both the 15 Department's experts and other industry experts? 16 A. Yes. This is, you know, the key takeaways 17 from all of my testimony, direct and rebuttal, and kind 18 of some -- you know, the highlighted points that I would 19 talk about primarily, but a lot of them have been 20 resolved in some fashion. 21 Q. And so if the Board were to decide to vary 22 from the Department's proposal that we presently see, 23 you would think they would want to go back and look at 24 some of this testimony to ensure that they were 25 comfortable with making those changes from the	1726 1 has implied. And in context for what we're talking 2 about, LEC is applicable just to the lean-burn engines 3 only. So it's not just a one size fits all category, 4 but rather it's kind of a generic term of equipment that 5 can reduce the engine emissions, primarily NOx, on these 6 lean-burn engines. 7 And it can include a wide range of 8 technologies, including high-pressure fuel injection, 9 prechambers, turbocharger upgrades, piston design, 10 micropilot, solar head design. You know, it's -- it's a 11 very sweeping category. 12 And the other important thing is not every LEC 13 can be applied to every single engine type. For 14 instance, smaller bore engines, such as the Caterpillar 15 G3500 or the Waukesha L7042 GLs, they don't really have 16 the physical space to have a prechamber, which is 17 crucial to get to your ultralow NOx levels. 18 And that's, one, because of the physical 19 architecture of the engine and space limitations -- in 20 the next slide I've got a little illustration that can 21 help show that a little bit -- as well as maintain the 22 proper prechamber to cylinder -- cylinder clearance 23 volume ratios. And so -- and that would be what's 24 needed for a prechamber to be effective. 25 So it's -- it's a blanket solution, and the

1727 1 other -- the other item that's important to -- to 2 mention is that a lot of existing engines in service 3 already, and Mr. Palmer kind of alluded to this already, 4 have all the LEC that's available to those engines, that 5 vintage of engine, that category, that model -- they 6 already have everything that is available to it that's 7 applicable installed. 8 And in many cases, the lowest NOx level they 9 can achieve is 2 grams per brake -- 2 grams NOx per brake 10 horsepower-hour. 11 Another thing that was mentioned in the NMED 12 testimony that I thought should have additional 13 clarifications is the HOERBIGER solutions for legacy 14 engines. The HOERBIGER solution is Cooper Machinery 15 Services product offerings, and it offers a half gram NOx 16 upgrade for some legacy engines. 17 And although it is a -- you know, a good 18 product offering, it's actually a range of LEC 19 technologies. It's only applicable to a very small 20 subset of engines. It covers about 3 percent of the 21 engines, in sort of -- in New Mexico in these 22 categories. There's a lot of other legacy engines that 23 it doesn't apply to. 24 And so that's the big challenge for 25 low-emission combustion technology. It's just not a one	1729 1 excess air, where it goes lean, or it goes fuel rich, 2 where it is air deficient, and you're just kind of 3 toggling back and forth. 4 An analogy would be that's exactly how your 5 automobile works. Your automobile is considered a 6 rich-burn engine. And so you've got an NSCR catalyst on 7 your car that works in the exact same manner, other than 8 industrial engines are much more difficult to maintain 9 your -- your control. And that's because in theory they 10 never turn off, whereas your automobile every time it 11 turns off it resets the sensors, and that's what is able 12 to keep your car in compliance. 13 However, in industrial engines you need these 14 multipoint air-fuel ratio controllers. And when I say 15 multipoint, so that it can map across a wide range of 16 operating parameters, whether it be fuel conditions, it 17 could be a compressor loading or whatever you're running 18 off that engine. And then you also get natural drift in 19 your sensors that need to have a recalibration of some 20 sort. 21 So the NSCR is very -- is good at achieving 22 very low NOx levels, but it is limited to your AFR set 23 points, natural drift and then also catalyst 24 degradation. 25 Q. And does field gas present somewhat greater
1728 1 size fits all. 2 In terms of rich-burn engines, it's important 3 that a nonselective catalytic reduction, and that's -- 4 it's a passive catalyst for rich-burn engines only. And 5 the reason why it's -- 6 THE REPORTER: Excuse me, Mr. Lisowski. 7 Please slow down and start that last one 8 again. 9 MR. LISOWSKI: You bet. 10 So nonselective catalytic reduction, or NSCR, 11 is a passive catalyst system for rich-burn engines, 12 rich-burn engines only. And the reason why they're 13 effective with rich-burns is because rich-burns operate 14 right at a perfect air-fuel ratio, called 15 stoichiometric, and it toggles lean to rich, lean to 16 rich. And it allows your -- your catalyst precious 17 metals can -- so they can load up with the criteria 18 pollutant, and then they can regenerate as they toggle 19 back and forth, a very simplistic description. 20 Q. (BY MR. HISER) And perhaps, Mr. Lisowski, it 21 would be helpful for the Board to explain what you mean 22 by rich versus lean. 23 A. Sure, you bet. 24 So because it operates right at 25 stoichiometric, it allows where it gets slightly air,	1730 1 challenge than pipeline quality natural gas -- 2 A. It most -- it most certainly can. And 3 typically those challenges would be mostly associated 4 with VOCs and -- on a rich-burn engine, VOCs and CO. On 5 a lean-burn engine, you're trying to control your 6 temperature to reduce your NOx. And so higher fuel Btu 7 can pose some challenges to get those combustion 8 temperatures down for your thermal-generated NOx. 9 The last kind of item that has had, you know, 10 kind of sweeping application is the selective catalytic 11 reduction technology. And those -- that's the SCR. And 12 that's where you have -- you're able to reduce your NOx, 13 which you need a reducing environment, which means you 14 need air-deficient environment. So it's a challenge 15 with your lean-burn engines. So an SCR is only 16 applicable on a lean-burn engine, also a diesel engine, 17 because they're in a similar situation. 18 And what happens is you inject a reagent, as 19 Ms. Kuehn mentioned, downstream of the engine, upstream 20 of your SCR catalyst, and your reagent -- it's -- it's a 21 reducing agent, is what it's called. It's to create an 22 oxygen-deficient environment. And urea is an ammonia 23 mecha -- is an ammonia transport mechanism, basically. 24 So you can use urea, aqueous ammonia, you know, chemical 25 ammonia, although there's some challenges chemically

1731 1 with transporting just pure ammonia. 2 But it can be very expensive to install and 3 operate, and it's disproportionately expensive for 4 smaller engines, and it's because it's a complicated 5 system. It requires onsite power, which is not readily 6 available in many New Mexico operating locations, as 7 well as many locations in a lot of oil fields. And it's 8 very limited, if any, instances of application in oil 9 and gas gathering operations. 10 The next slide I have has an illustration of 11 the SCR to further highlight its complexity. This is 12 just a graphic off of a catalyst manufacturing web site, 13 and the purpose of it is to -- to show a graphic as to 14 how the SCR works, but my intent is to show that it is 15 complicated, and it's not just something you can slap on 16 an engine and have it magically work. It takes a lot of 17 effort to run these in -- in practice. 18 The last slide -- 19 Q. So a short way of putting it is that SCR 20 systems require care and feeding? 21 A. Absolutely. And they require baby-sitting 22 like a -- you know, like the diagram may allude to. 23 And I'm not sure if you can make out the image 24 on the -- on the left. That is also in my rebuttal 25 testimony.	1733 1 Department's accepted limits in the September 16th draft 2 is you had recommended a little bit higher carbon 3 monoxide limits for a number of these engines. 4 Would you like to discuss that recommendation 5 and the reasons why? 6 A. Sure. So my testimony touched on CO not 7 needing to be in this rule because it is not a precursor 8 to the ozone creation, and it should be either removed 9 or just mirror the NSPS Quad J, where it's already 10 regulated at 2 grams per brake horsepower-hour. 11 And one of the reasons is because in 12 combustion CO and NOx have an inverse relationship when 13 operating in a lean environment, so excess air. And so 14 as your combustion temps lower to decrease your NOx 15 emissions, your CO will go up. It's -- it's a function 16 of incomplete combustion. 17 And so the reason -- the results become this 18 kind of twofold thing, one where CO rises sharply, and 19 so you put more dependence on your catalyst to reduce 20 it, that's how you reduce your CO, but then also with 21 your decreasing combustion temperatures to achieve these 22 ultralow NOx levels, your catalyst housing temperatures 23 decrease, and you get lower catalyst performance 24 depending on where that catalyst is placed. And it 25 may -- and that's often a challenge with lowering your
1732 1 But the purpose of that image, this little 2 cartoon is just to kind of show your space limitations 3 as to why you can't slap a prechamber on any engine. 4 And the left -- the left engine is a standard sparking 5 ignited engine cutaway, and then the right one is your 6 prechamber, this kind of red -- this red volume. 7 And really what it is is you inject a -- you 8 know, you have a lean mixture in your cylinder, that's, 9 you know, at the edge of your flammability limits, and 10 then you put a rich mixture in your prechamber and 11 ignite it, and it creates a torch that creates a 12 high-energy -- very high-energy emission system to 13 ignite a very lean mixture. 14 And so it's a -- typically a ratio of your 15 about a 1 percent clearance volume, meaning with your 16 cylinders all the way up that volume prechamber needs to 17 be about 1 percent of that volume. And you can see that 18 you can't physically just put one in. It's often built 19 into the architecture of the engine. 20 So I think that's all I want to touch on in 21 terms of LEC and SCR technology, just to kind of help 22 provide some information to the Board to -- to make it 23 through some of these -- this testimony. 24 Q. And so the one area I think where your 25 recommendations varied a little bit from the	1734 1 NOx, is you get this decreased catalyst effectiveness. 2 However, as -- as Ms. Kuehn mentioned and 3 Mr. Palmer mentioned earlier, CO does have utility as a 4 surrogate for VOC measurement. Nonmethane, nonethane 5 hydrocarbon can be sometimes challenging to measure, and 6 so another agency has -- has provided some allowance, 7 which we're very thankful for, to allow for CO to be 8 used as a surrogate as many testing protocols allow. 9 But even if CO -- a low level of CO is not in 10 the rule, you create a pseudolimit while you're using CO 11 as a surrogate to meet your VOCs -- 12 Q. And so is it -- I'm sorry. 13 Finish your thought. 14 A. You're good. 15 Q. And so is it your testimony to the Board that 16 if we were to adjust this limit to 2 grams per brake 17 horsepower-hour, that you believe that would still 18 provide good control of VOC while reducing some of the 19 pressure on trying to maintain the NOx limit 20 continuously? 21 A. That -- that's correct. 22 Q. So it helps keep the NOx down where the 23 expectation is without really causing likely an increase 24 on the VOC side. 25 A. Correct. Correct. And if you elected to use

1735 1 CO as a surrogate for your VOC measurements, you have to 2 operate that CO lower anyways to create that -- that 3 surrogacy. Right? So -- but what it does is it gives 4 you a little bit of flexibility, whether it be in 5 wintertime operation, when you can't get your catalyst 6 hot, or if you're having challenges meeting your NOx 7 limits, you can elect to not use your CO as a surrogate 8 and do EPA reference method testing, which is allowed 9 within the rule. It provides you flexibility. 10 Q. Thank you. 11 Were there any other topics from your direct 12 or rebuttal testimony that you wanted to share with the 13 Board, or have we reached the end of what you wanted to 14 discuss? 15 A. We've reached the end of what I'd like to 16 discuss until we get to surrebuttal based upon other 17 testimony. 18 Q. Right. 19 And you have comments about the National Park 20 Service proposal which you're going to hold until we 21 hear what the National Park Service proposal is? 22 A. That's correct. 23 Q. Okay. 24 Thank you very much, Mr. Lisowski. 25 Madam Hearing Officer, he is available for	1737 1 VICE-CHAIR TRUJILLO DAVIS: Lisowski. Okay. 2 Thank you, Mr. Lisowski. 3 MR. LISOWSKI: You're welcome. 4 VICE-CHAIR TRUJILLO DAVIS: I just was 5 reviewing your presentation here, and I thank you for 6 putting this presentation together for us. It helps 7 kind of walk us through and pay attention to things on a 8 more technical level. So I really have just a general 9 question for you. 10 What -- what are you recommending -- I see 11 that you're saying that CO should not be included, but 12 what are you recommending as a change to the rule or in 13 your testimony representing NMOGA as a change to the 14 rule? 15 MR. LISOWSKI: You know, either two approaches 16 with removing CO would be in terms of mirroring the Quad 17 J NSPS at 2 grams or just striking it from the rule as a 18 limit. And the NMED's rebuttal to that was to, you 19 know, allow to use it for a surrogate for VOC 20 measurement. And my argument is that you'll still have 21 to operate your CO as a low level anyways if you want to 22 use it as a surrogate, and so it's kind of a duplicative 23 argument. And so I would like to see it, you know, 24 mirror NSPS. 25 VICE-CHAIR TRUJILLO DAVIS: Okay.
1736 1 questions from the parties. 2 HEARING OFFICER ORTH: Sorry. Thank you. 3 If you would stop sharing your screen briefly, 4 Mr. Lisowski, I'll be able to see if there are questions 5 of you from the other parties. 6 Okay. I don't see other parties or counsel 7 appearing on screen. 8 I'll turn to the Board Members for their 9 questions. 10 While I'm doing that, if you're an attendee on 11 this platform and have a question, please reach out 12 through the chat. 13 EXAMINATION 14 BY THE BOARD: 15 HEARING OFFICER ORTH: Madam Chair? 16 You're unmuted, Madam Chair. 17 Any questions? 18 CHAIR SUINA: Yes, Madam Hearing Officer. I 19 don't have any questions. 20 HEARING OFFICER ORTH: All right. Thank you. 21 Vice-Chair Trujillo Davis? 22 VICE-CHAIR TRUJILLO DAVIS: Yes. Thank you. 23 And I apologize. Can you pronounce your last 24 name for me again? 25 MR. LISOWSKI: Lisowski.	1738 1 And just to confirm, these -- those changes 2 were submitted to the NMED? 3 MR. LISOWSKI: Yeah, in my initial testimony. 4 VICE-CHAIR TRUJILLO DAVIS: All right. Thank 5 you, sir. I appreciate the information. 6 MR. LISOWSKI: No problem. 7 HEARING OFFICER ORTH: Thank you. 8 Member Cates, any questions? 9 MEMBER CATES: No questions here. Thank you. 10 HEARING OFFICER ORTH: Thank you. 11 Member Bitzer? 12 MEMBER BITZER: Yes, Madam Chair, Madam 13 Hearing Officer. 14 Thank you for the testimony. I love learning 15 about engines. 16 I am curious. You're saying that the CO, 17 which is carbon monoxide, isn't a -- isn't a precursor 18 for ozone, if I understood that correctly, and I think 19 it's better left as a talisman for other -- other things 20 that we are trying to measure and reduce. 21 What happens to it? I know it's lethal in 22 high concentrations, can kill you pretty quickly without 23 you even knowing it's coming, but I can't imagine that 2 24 parts is a -- is a lot. But it can accumulate in an 25 area with no wind.

1739 1 What happens to it once it's out in the -- in 2 the open? 3 MR. LISOWSKI: You know, I'm not sure about 4 the atmospheric influences on CO, you know, long-term, 5 you know. But generally speaking, you've got, you know, 6 pretty high destruction efficiency that varies over time 7 as you get callus degradation. But you're able to, you 8 know, reduce it to the -- you know, the NSPS limits on a 9 pretty easy basis, with, you know, certain parameters, 10 of course. But I'm not sure in -- atmospherically what 11 happens to CO. 12 MEMBER BITZER: I can probably find that on 13 the Internet. 14 But thank you. 15 MR. LISOWSKI: You're welcome. 16 HEARING OFFICER ORTH: Okay. Thank you. 17 Member Garcia. 18 Member Garcia, can't hear you. 19 MEMBER GARCIA: Can you hear me now? 20 HEARING OFFICER ORTH: Now, yes. 21 MEMBER GARCIA: Okay. I guess I just need to 22 speak up louder. 23 So, Mr. Lisowski, it sounds like the 24 Department made many of the changes you all suggested. 25 Would you say they made most of the changes	1741 1 Mr. Lisowski. That was very helpful in terms of how 2 this applies in -- in the field and in the real world. 3 So I have no questions. Thanks. 4 MR. LISOWSKI: Thank you. 5 HEARING OFFICER ORTH: Okay. Thank you. 6 Mr. Hiser, will there be any follow-up? 7 MR. HISER: Ms. Orth, I think that I would ask 8 just one question, a follow-up for Mr. Lisowski. 9 FURTHER DIRECT EXAMINATION 10 BY MR. HISER: 11 Q. Member Bitzer asked you a question about 12 exposure to CO. 13 You do design work with these engines all the 14 time. You don't have any human health reservations 15 about the NSPS 2 grams per brake horsepower-hour in 16 terms of exposure of workers or others at that level, do 17 you? 18 A. I do not, no. 19 MR. HISER: Okay. Thank you. 20 HEARING OFFICER ORTH: All right. Thank you 21 very much, Mr. Lisowski, for your testimony. 22 We'll excuse you for the moment. 23 MR. LISOWSKI: Okay. Thank you. 24 HEARING OFFICER ORTH: Our next -- thank you. 25 Do I understand now we'll be going to IPANM?
1740 1 you suggested, and then you just have a couple small -- 2 well, not small to you, but small ones here that you 3 want them to change? 4 MR. LISOWSKI: Yes. You know, I -- the 5 Department has just done just an excellent job taking in 6 all this testimony and distilling it down. You know, we 7 haven't come out with a slam dunk, of course, and so 8 there's some -- you know, the rule still provides quite 9 a bit of challenge for industry to meet, but it's 10 practical challenge, where it's, you know, we can see a 11 line of sight to ways to achieve it. 12 And so I think the Department's done a great 13 job to kind of balance, you know, pushing the industry a 14 little bit and pushing these engines so that we have to 15 think a little bit more. It's certainly not just an 16 easy, oh, we made it through kind of thing. So I'd say 17 that it was a good example of compromising throughout 18 this. 19 MEMBER GARCIA: Thank you very much. I 20 appreciate that. Thank you. 21 That's all I have. 22 MR. LISOWSKI: Thank you. 23 HEARING OFFICER ORTH: Thank you. 24 Member Honker? 25 MEMBER HONKER: Just wanted to say thanks,	1742 1 Mr. Rose? 2 MR. ROSE: Our witness will re -- has 3 testimony related to the National Park Service proposal 4 that you're going to hear on Friday, and we're in the 5 process potentially of revising that. So we may not 6 need to hear from Mr. Blewitt at all in response to 7 this, but at this point we'd like to present that 8 testimony at the time that the National Park Service 9 presents theirs. 10 HEARING OFFICER ORTH: All right. Thank you 11 for that. 12 I didn't see a witness for Oxy. 13 So I believe we move to GCA. 14 Mr. Butzier? 15 MS. KATZ: And, Madam Hearing Officer, if 16 you're going in the order of the spreadsheet, there's -- 17 don't forget Kinder Morgan. 18 HEARING OFFICER ORTH: Yes. I haven't 19 forgotten Kinder Morgan. I had actually switched to 20 going through the service list. But if it makes sense 21 to hear from Kinder Morgan next, happy -- happy to do 22 it. I know GCA's proposed change was much more limited. 23 MS. GUTIERREZ: And, Madam Hearing Officer, I 24 was going to suggest the same. I think Mr. Butzier may 25 have a shorter presentation, and given the time it might

1743 1 be best for him to present first. 2 HEARING OFFICER ORTH: Thanks so much, 3 Ms. Gutierrez. 4 Mr. Butzier? 5 MR. BUTZIER: Thank you. 6 And all that's fine with -- with us. We will 7 go ahead and proceed. 8 Good morning, Madam Hearing Officer, Madam 9 Chair, Members of the Environmental Improvement Board. 10 The Gas Compressor Association will briefly 11 present two technical witnesses on the subject of the 12 engine emission standards in Section 113B.(2) and (3) of 13 NMED's proposed rule. Their testimony is somewhat 14 overlapping, and we propose to then, after presenting 15 each of them, make them available as a mini panel, if 16 you will, for questioning by other parties. 17 We also have my -- my partner, Christina 18 Sheehan, will be presenting two other GCA witnesses on a 19 separate part of the rules, and so we propose to sort of 20 break them up into two pieces. If that's acceptable to 21 the Hearing Officer, that's how we propose to proceed. 22 HEARING OFFICER ORTH: I think that's the most 23 efficient way to do it. Thank you. 24 MR. BUTZIER: Thank you, Madam Hearing 25 Officer.	1745 1 MR. BUTZIER: Mr. Sheldon, if you could maybe 2 try to see if you can either speak more loudly or turn 3 up your volume, that would be helpful. 4 Sorry, Madam Hearing Officer. 5 HEARING OFFICER ORTH: It's okay. 6 MR. SHELDON: I thought I had worked that 7 ahead of time. Let's see. 8 THE REPORTER: It is louder when you speak up 9 closer to the microphone like you are now. 10 MR. SHELDON: Is this loud enough at this 11 point, or should I make some other adjustment? 12 HEARING OFFICER ORTH: I can hear you. 13 Cheryl, how are you doing? 14 MR. SHELDON: How is this now, Cheryl? 15 THE REPORTER: I think that is going to work. 16 Thank you. 17 HEARING OFFICER ORTH: Thank you. 18 If you would raise your right hand. 19 Do you swear or affirm to tell the truth? 20 MR. SHELDON: I do. 21 HEARING OFFICER ORTH: Thank you. 22 23 24 25
1744 1 For ease of reference for the Board, the first 2 witness is Mr. Vic Sheldon. His direct testimony is GCA 3 Exhibit 9, his resume is GCA Exhibit 10. He did not 4 provide advance rebuttal. 5 The second witness is Mr. John Dutton. His 6 direct testimony is GCA Exhibit 12, his resume is GCA 7 Exhibit 13, and his rebuttal testimony is GCA 8 Exhibit 28. 9 Both witnesses will also be making reference 10 to NMED's September 16 draft rule, which is NMED's 11 Rebuttal Exhibit 23. 12 All of the exhibits that I have just previewed 13 for you have previously been entered into evidence in 14 this proceeding. 15 So if we could first please ask that 16 Mr. Sheldon be sworn. 17 HEARING OFFICER ORTH: Mr. Sheldon, if you 18 would join us on screen, please. 19 There we go. 20 Mr. Sheldon, would you spell your name, 21 please. 22 MR. SHELDON: My name is Vic Sheldon, V-I-C 23 S-H-E-L-D-O-N, Vic Sheldon. 24 HEARING OFFICER ORTH: All right. Would you 25 raise your right -- I'm sorry. Raise your right hand.	1746 1 VIC SHELDON 2 (Relating to Topic Order 24) 3 having been first duly sworn or affirmed, was 4 examined and testified as follows: 5 DIRECT EXAMINATION 6 BY MR. BUTZIER: 7 Q. Mr. Sheldon, would you please introduce 8 yourself. 9 Mr. Sheldon, can you hear me? 10 A. Yes, I can. 11 Q. Would you please -- 12 A. Madam Hearing Officer and Members of the 13 Board, good morning. 14 My name is Vic Sheldon, and I am currently the 15 general manager of VSheldon JEverett Decisions, LLC. 16 Q. And, Mr. Sheldon, please briefly describe your 17 educational and professional qualifications. 18 A. I earned my BS in mechanical engineering from 19 Purdue University in 1973. I have maintained a 20 registered professional engineer certification in 21 mechanical engineering from the State of Illinois since 22 1984. I earned an MBA from Indiana Wesleyan University 23 in 1997. 24 The majority of my 37-year career was spent at 25 Caterpillar, where I was dedicated to natural gas

1747 1 engines in a wide variety of roles, design, test and 2 performance development, field validation, manufacturing 3 support, product support, education and training, 4 marketing, and managing designers and developers. 5 My role with Caterpillar's oil and gas group 6 focused on large gas compression engine market analysis, 7 capture of functional requirements and the development 8 of large development and launch of new products. Part 9 of my gas compression engine market analyses included 10 understanding and tracking national, regional, state and 11 local emissions requirements. 12 Since retiring from Caterpillar, I have 13 assisted diesel and natural gas engine power systems end 14 users, original equipment manufacturers and dealers. I 15 have served as an engine consultant, witness to end 16 users, original equipment manufacturers and Caterpillar 17 dealerships. 18 Q. Thank you, Mr. Sheldon. 19 Are your direct testimony and resume GCA 20 Exhibits 9 and 10 respectively? 21 A. Yes. 22 Q. And do you adopt your written direct testimony 23 without change? 24 A. Yes, I do. 25 Q. Would you please state the general purpose of	1749 1 reduce the duration and temperature for combustion and 2 resulting NOx emissions. 3 All of my more detailed written testimony was 4 offered to help the Board and NMED establish appropriate 5 engine categories with engine emission standards choices 6 that are reasonable, flexible, feasible and consistent 7 with what is available on the market for companies 8 meeting and seeking to meet the purchase of new engines, 9 as well as New Mexico's goals of reducing emissions 10 within the oil and gas sector. 11 For those reasons, I testified that NMED 12 should increase the size cutoff for application of the 13 most stringent emission standards for new lean-burn 14 engines from 1,000 horsepower to 1,875 horsepower. 15 My testimony also urged that engines be 16 regulated as new engines based on their dates of 17 manufacture or reconstruction and not the installation 18 or relocation. 19 Q. Thank you, Mr. Sheldon. 20 And since providing your written direct 21 testimony, have you reviewed NMED's September 16 draft 22 of its proposed rule, and does Section 113B.(2) and (3) 23 sufficiently address the matters you presented? 24 A. Yes. I have reviewed it, and I believe it 25 takes into account the main points for my direct
1748 1 your testimony and provide a brief summary of it. 2 A. The general purpose of my direct testimony was 3 to present and help clarify for the Board and NMED the 4 emissions capabilities of many lean-burn combustion 5 natural gas engines of differing sizes commonly employed 6 in the gas compression industry today. 7 My testimony was focused on the proposed 8 emission standards for oxides of nitrogen, or NOx, that 9 were presented in NMED's May 6 draft rule, and 10 specifically the proposed emission standards for new 11 lean-burn engines. 12 I sought to clarify why some larger cylinder 13 bore diameter gas compression engines greater than 14 1,000 horsepower could meet the NOx standard in the May 6 15 proposal while other new engines could not meet the 16 standard in the proposed rule, despite the application 17 of best available technology for reducing emissions. 18 My testimony stated that technologies 19 identified as low emissions combustion, or LEC 20 technology, retrofits are already integrating into the 21 designs of both larger and smaller bore engines 22 manufactured by Caterpillar, and have been for many 23 years. This enables enhanced ignition of extremely lean 24 air and fuel mixtures in the main combustion chamber due 25 to the use of multiple flame fronts in the design that	1750 1 testimony and will help to achieve NMED's emissions 2 reduction goals relating to natural gas compression 3 engines. 4 Q. And does that conclude your presentation in 5 today's hearing, Mr. Sheldon? 6 A. It does. 7 Thank you very much. 8 Q. Thank you. 9 And, Madam Hearing Officer, I request that 10 Mr. Dutton now be sworn. 11 HEARING OFFICER ORTH: All right. 12 If you will join us on screen. 13 Mr. Dutton, hello. 14 Would you -- let's see. Let's hear you talk 15 first. 16 Can you hear me? 17 MR. DUTTON: Yes, Madam Hearing Officer, I can 18 hear you. 19 HEARING OFFICER ORTH: All right. Your voice 20 is coming through just fine. 21 If you would spell your name, please. 22 MR. DUTTON: Yes, ma'am. My name is John, 23 J-O-H-N, Dutton, D-as-in-delta-U-T-T-O-N. 24 HEARING OFFICER ORTH: All right. Thank you. 25 If you'd raise your right hand.

1751 1 Do you swear or affirm to tell the truth? 2 MR. DUTTON: Yes, ma'am, I do. 3 HEARING OFFICER ORTH: Thank you. 4 JOHN DUTTON 5 (Relating to Topic Order 24) 6 having been first duly sworn or affirmed, was 7 examined and testified as follows: 8 DIRECT EXAMINATION 9 BY MR. BUTZIER: 10 Q. Mr. Dutton, would you please introduce 11 yourself. 12 A. Good afternoon, Madam Hearing Officer and 13 Members of the Board. 14 My name is John Dutton. I am currently the 15 president of J-W Power Company, who is a member of the 16 Gas Compressor Association. 17 Q. And, Mr. Dutton, I would ask that you maybe 18 speak a little more slowly for the benefit of the court 19 reporter. Okay? 20 Would you please briefly describe your 21 educational and professional qualifications. 22 A. Sure. I earned a bachelor of science degree 23 in mechanical engineering from the University of 24 Oklahoma in 1991. I've spent the last 30 years working 25 in the natural gas compression and midstream pipeline	1753 1 direct testimony? 2 A. The general purpose of my direct testimony was 3 to clarify for the Board and for NMED the capabilities 4 of common engines utilized in the gas compression 5 industry and to propose changes to Sections 113B that 6 preserve the NMED's central goal of reducing NOx 7 emissions while better accounting for the practical 8 realities involving the availability and use of 9 lean-burn engine designs. 10 This clarification was necessary to avoid 11 prohibitive cost burdens on the owners and operators of 12 those engines. 13 Q. Would you please briefly summarize your direct 14 testimony. 15 A. With regard to the emission standards for new 16 engines, I testified that the proposed standard of 17 0.3 grams of NOx per horsepower-hour in the May 6th 18 version of NMED's proposed rule is lower than is 19 currently achievable for some new spark ignition 20 lean-burn engines that are sized between 1,000 and 21 1,875 horsepower. 22 I also testified that it is not economically 23 viable for owners or operators to use SCR, selective 24 catalytic reduction, as opposed to combustion controls 25 on those engines, because you achieve minimal NOx
1752 1 segments of the oil and gas industry. The last 23 of 2 those years has been with the J-W family of companies, 3 where I have worked in financial analysis, operations 4 and executive roles. 5 I have also served in the Gas Compressor 6 Association as chairman of the Environmental Committee, 7 as well as on its Board of Directors. 8 Q. Thank you, Mr. Dutton. 9 Are your direct testimony and resume GCA 10 Exhibits 12 and 13 respectively? 11 A. Yes, sir, they are. 12 Q. And did you also provide rebuttal testimony in 13 GCA Exhibit 28? 14 A. I did. 15 Q. Do you adopt your direct and rebuttal 16 testimony without change? 17 A. Yes, I do. 18 Q. Would you please state the general subject of 19 your testimony. 20 A. Sure. My testimony, like the testimony of GCA 21 witness Vic Sheldon that you just heard, relates to the 22 proposed regulation of engines and emission standards 23 that will apply to those engines under Sections 113B.(2) 24 and (3). 25 Q. And what was the general purpose of your	1754 1 reductions at a very high cost. 2 For those reasons, I testified that the size 3 cutoff for applying the most stringent NOx emission 4 standard of 0.3 grams of NOx per horsepower-hour for new 5 engines should be raised from 1,000 horsepower to 6 1,875 horsepower. 7 Now, for existing engines, I testified that 8 the proposed standard of 0.5 grams of NOx per 9 horsepower-hour in the May 6th revision of the rule is 10 lower than as currently achievable for many existing 11 lean-burn engines that are sized greater than 12 1,000 horsepower, and that those existing engines are 13 not able to meet this limit despite the use of low 14 emissions combustion, or LEC, technology to reduce 15 emissions of NOx. 16 And like new engines, the use of 17 postcombustion controls like SCR is not an economically 18 viable way to incrementally reduce NOx emissions for 19 anything but the largest engines with specific site 20 advantages, such as electrical power and onsite 21 personnel. 22 I also testified that Section 113B originally 23 was proposed by NMED emissions limits would have 24 hindered competition from engine manufacturers. This 25 competition is beneficial in driving continuous

1755 1 improvement, including lower emissions. It is my 2 opinion that without healthy competition LEC technology 3 would have never progressed as much as it has. 4 Last, I testified that an engine should be 5 regulated as either new or existing based on the date of 6 manufacture or reconstruction and that the relocation of 7 an existing engine, which sometimes occurs based on 8 operational needs, should not artificially convert an 9 existing engine into a new engine for the purposes of 10 the emission requirements of the rule. 11 Q. Thank you, Mr. Dutton. 12 And what was the general purpose of your 13 rebuttal testimony? 14 A. The main purpose of my rebuttal testimony was 15 similar to the purpose of my direct testimony. I 16 prepared my rebuttal testimony after review of the 17 material that NMED cited in developing the proposed 18 rule. I testified that with regard to existing 19 lean-burn engines those materials demonstrated that the 20 original proposed NOx emission standard for engines 21 greater than 1,000 horsepower would not be achievable 22 for many engines. 23 With regard to new lean-burn engines, I 24 testified that the original size threshold of 25 1,000 horsepower for the most stringent NOx emission	1757 1 A. Yes. I would like to offer surrebuttal 2 testimony to support NMED's decision not to include the 3 National Park Service's requested NOx emission standards 4 for some smaller size categories of engines to the 5 NMED's September 16 version of its proposed rule. 6 Q. Please proceed at this time, Mr. Dutton, with 7 that surrebuttal testimony. 8 A. The National Park Service offered Pennsylvania 9 permit GP-5 as the basis for its proposed emissions 10 limits. However, GP-5 differentiates between existing 11 engines permitted prior to 2013, those permitted between 12 2013 and 2018, and those permitted from 2018 until now. 13 The National Park Service proposal for New Mexico does 14 not make this important distinction. 15 For example, the National Park Service cited 16 GP-5 in support of its proposed NOx standards for 17 existing rich-burn engines for the size ranges below 18 1,000 horsepower, but the GP-5 levels cited by the 19 National Park Service only apply to those engines 20 permitted after 2013. Existing engines prior to 2013 21 have emissions levels that are more consistent with the 22 federal limits. 23 The same is true for the Park Service in its 24 proposed NOx standards for smaller sizes of existing 25 lean-burn engines. The Park Service is citing GP-5 as
1756 1 standard was inconsistent with the Pennsylvania permit 2 program and that there was no technical basis for 3 setting that cutoff at 1,000 horsepower. 4 Q. And have you reviewed NMED's latest 5 September 16 draft of the proposed rule that is NMED 6 Rebuttal Exhibit 23, and do NMED's changes to 7 Section 113B.(2) and (3) sufficiently address your 8 concerns? 9 A. I have reviewed the final rule proposal, and 10 they essentially do address my concerns. There will be 11 significant challenges to meet the requirements of the 12 rule, particularly for some existing engines, but the 13 engine NOx emission standards in the September 16 draft 14 of the rule is largely technically and economically 15 achievable for the majority of engines operated by GCA's 16 member companies. 17 I feel like NMED did a good job of addressing 18 GCA's concerns while preserving the goal of reducing NOx 19 emissions. 20 Q. And does that conclude your presentation of 21 direct and rebuttal testimony in today's hearing? 22 A. Yes, sir, it does. Thank you. 23 Q. Now, in the interest of efficiency, do you 24 wish to offer any surrebuttal in today's hearing? And 25 if so, on what topic?	1758 1 support for its existing emission standard proposal, but 2 under GP-5 those levels do not apply to all existing 3 engines in those size ranges, only to those lean-burn 4 engines permitted after 2013. 5 In addition, the National Park Service's 6 reliance on the Pennsylvania GP-5 permit ignores the 7 fact that the Pennsylvania program, unlike the proposed 8 New Mexico program, provides a separate authorization 9 mechanism that can be used to authorize certain engines 10 that cannot meet the emission standards in GP-5. 11 Pennsylvania allows some engines, particularly 12 in the upstream space where smaller rich-burn engines 13 are more common, to be permitted with higher per 14 horsepower limits but with a cap on tons per year. The 15 GP-5 limits for smaller rich-burn engines should not be 16 applied unilaterally, as the National Park Service 17 propose, without giving consideration to the other 18 permitting alternatives that are available in 19 Pennsylvania. 20 There would be a number of challenges 21 associated with existing engines meeting the ultralow NOx 22 limits proposed by the National Park Service on a 23 continuous basis. 24 Q. And, Mr. Sheldon, aren't many of these smaller 25 rich-burn engines already well controlled at the federal

1759 1 level? 2 MR. SHELDON: Yes, they are. 3 (Simultaneous discussion.) 4 MR. DUTTON: So I would like to answer that 5 question. 6 MR. SHELDON: I'm sorry. 7 MR. BUTZIER: I'm sorry. I said Mr. Sheldon. 8 MR. DUTTON: Okay. 9 MR. BUTZIER: I should have said Mr. Dutton. 10 But thank you for jumping in in response to my 11 question. 12 I'll direct it now to Mr. Dutton. 13 Q. Aren't many of the smaller rich-burn engines 14 already well controlled at the federal level? 15 A. Yes. I believe most of them are based on the 16 nature of their manufacture date. Based on a review of 17 my company's fleet of small rich-burn engines, those 18 that are less than 500 horsepower, located in the State 19 of New Mexico, 83 percent of those engines are subject 20 to NSPS Quad J with NOx emissions rates of 1 gram per 21 horsepower-hour. Another 4 percent are subject to NSPS 22 Quad J with a 2 gram per horsepower-hour requirement. 23 NSPS Quad J also includes maintenance 24 requirements similar to those the NMED has proposed. 25 Although my company's fleet is a small sample size, I do	1761 1 While I'm doing that, if you're an attendee on 2 this platform and would have a question, please reach 3 out through the chat. 4 Madam Chair, do you have questions? 5 CHAIR SUINA: Thank you, Madam Hearing 6 Officer. I don't have any questions at this time. 7 HEARING OFFICER ORTH: Thank you. 8 Vice-Chair Trujillo Davis? 9 VICE-CHAIR TRUJILLO DAVIS: Thank you. I 10 don't have any questions at this time. 11 HEARING OFFICER ORTH: All right. 12 Member Cates? 13 MEMBER CATES: No questions. Thank you. 14 HEARING OFFICER ORTH: Thank you. 15 Member Bitzer? 16 MEMBER BITZER: No questions. Thank you. 17 HEARING OFFICER ORTH: Thank you. 18 Member Garcia. 19 MEMBER GARCIA: No questions. Thank you. 20 HEARING OFFICER ORTH: No? All right. 21 And Member Honker. 22 MEMBER HONKER: No questions. Thank you. 23 HEARING OFFICER ORTH: Thank you, all, very 24 much. 25 I think it's time to take a lunch break. We
1760 1 believe it is representative of the population as a 2 whole, and it indicates that the vast -- the vast 3 majority of small rich-burn engines in New Mexico are 4 already well controlled and further regulation with its 5 associated administrative burden is not necessary and 6 will not have a significant impact on the air quality. 7 Q. So, Mr. Dutton, do you agree with NMED's 8 proposal to not impose requirements on small rich-burn 9 engines beyond the federal requirements? 10 A. Yes. For the reasons I just discussed, I 11 agree with NMED's decision not to include the National 12 Park Service's requested changes in the version of the 13 draft rule that it issued on September 6, 2021. 14 MR. BUTZIER: Thank you, Mr. Dutton. 15 Madam Hearing Officer, the GCA tenders its 16 witnesses, Vic Sheldon and John Dutton, for 17 cross-examination at this time. 18 HEARING OFFICER ORTH: Thank you very much, 19 Mr. Butzier. 20 Counsel and parties, if you have a question of 21 the GCA panel on this topic, if you would please turn on 22 your camera. 23 I'm not seeing anyone. 24 I'm going to turn to the Board for their 25 questions.	1762 1 need to come back at 1:00 for public comment. We do 2 have several public commenters. I'll see you at 1:00. 3 (Proceedings in recess from 12:15 p.m. to 4 1:00 p.m.) 5 HEARING OFFICER ORTH: Let's come back from 6 the lunch break, please. 7 My name is Felicia Orth, Hearing Officer in 8 EIB 21-27. 9 We have reached the one o'clock public comment 10 session. Let me share with you the names of the folks 11 who reached out to the Board administrator by e-mail. 12 I'll call on you in this order. 13 Adeliou Stith, Marla Painter, Janet Carter, 14 Karl Braithwaite, Michael Sells, Stacie Slay, Stan 15 Renfro and Lauri Costello. 16 If you're on the platform and I did not just 17 call your name and you'd like to offer comment during 18 this session, please reach out through the chat. Chat 19 is enabled for everyone, and I'm happy to accept your 20 comment. 21 Let's see here. Let me find Adeliou Stith. 22 Hello. This is Felicia Orth. 23 Can you hear me? 24 Hello? 25 MR. STITH: I can hear you.

1763 1 HEARING OFFICER ORTH: Ah. There. 2 Are you Mr. Stith? 3 MR. STITH: (Unintelligible and/or inaudible) 4 Stith. 5 HEARING OFFICER ORTH: Hello. 6 MR. STITH: I -- 7 HEARING OFFICER ORTH: I would like you to 8 spell your name, please. 9 MR. STITH: A-D-E-L- (unintelligible and/or 10 inaudible) S-T-I-T-H. 11 HEARING OFFICER ORTH: Yes? 12 Mr. Stith, are you still speaking? 13 You're unmuted, but I'm not hearing anything. 14 MR. STITH: I have no -- 15 HEARING OFFICER ORTH: Sorry? 16 MR. STITH: Hello. 17 HEARING OFFICER ORTH: Hello. 18 Can you hear me? 19 MR. STITH: Okay. 20 HEARING OFFICER ORTH: I think you might be 21 breaking up, Mr. Stith. 22 Cheryl, for the transcript, the name is 23 A-D-E-L-I-O-U-S -- 24 MR. STITH: Delay. 25 HEARING OFFICER ORTH: -- S-T-I-T-H.	1765 1 gas and so forth. 2 (Unintelligible and/or inaudible) all of us 3 benefit from the oil and gas industry being that it's 35 4 to 40 percent of (unintelligible and/or inaudible). And 5 also the revenue benefits us because of our ad valorem 6 is covered by a portion of (unintelligible and/or 7 inaudible) our schools are funded in that way, as well 8 as the General Fund. 9 So I think their -- I think the oil and gas 10 industry does provide impactful benefits for our 11 community. 12 Modeling conducted on behalf of the New Mexico 13 Environmental Department to show that (unintelligible 14 and/or inaudible) emissions has a negligible effect on 15 reducing the ozone. Yet as a member of the public, I'm 16 (unintelligible and/or inaudible) that the proposed 17 ozone precursor rule will improve air quality. 18 Is the science behind this (unintelligible 19 and/or inaudible) or where does the data come from to 20 support this assertion (unintelligible and/or inaudible) 21 something that has not been presented to us 22 (unintelligible and/or inaudible) an area that we've 23 never gone before, but yet we're ready to dive into it. 24 And I certainly hope (unintelligible and/or 25 inaudible). It appears that the state's own model
1764 1 Mr. Stith, it's clear to me that your 2 microphone is going in and out. You're unmuted on the 3 platform, but it seems your sound isn't reliable. 4 It might help -- 5 MR. STITH: Well, that's too bad. 6 HEARING OFFICER ORTH: Oh, wait. I just heard 7 that. Keep speaking now. 8 ADELIOUS STITH 9 gave public comment as follows: 10 PUBLIC COMMENT 11 HEARING OFFICER ORTH: I'll start your five 12 minutes. 13 MR. STITH: But it is a delay. 14 I am Adeliou Stith, and I am here and 15 (unintelligible and/or inaudible) from the West Side of 16 Albuquerque. (Unintelligible and/or inaudible) a couple 17 of the questions that -- that I guess you -- you 18 present (unintelligible and/or inaudible) the oil and 19 gas industry impact me in a way that it allows us to 20 (unintelligible and/or inaudible) from the revenue that 21 it produces. 22 And it also, of course, benefits the community 23 and impacts me in a way (unintelligible and/or 24 inaudible) being able to move around in the vehicles and 25 so forth that we have and being able to have the natural	1766 1 doesn't support the proposed ozone (unintelligible 2 and/or inaudible) New Mexico Environmental Department 3 should refocus its efforts on reducing pollution in 4 general (unintelligible and/or inaudible) and one 5 industry in the state. 6 I know that growing up in Baltimore City and 7 learning (unintelligible and/or inaudible) any type of 8 targeting in order for a particular way to be -- to be 9 addressed or -- or (unintelligible and/or inaudible) 10 just plain on discrimination. (Unintelligible and/or 11 inaudible) that we're not discriminating against any 12 particular industry in order to have (unintelligible 13 and/or inaudible) outcome that is desired. 14 The oil and natural gas industry is 15 proactively working to reduce the risks to 16 (unintelligible and/or inaudible) action to limit 17 emissions of methane and other greenhouse gases. I've 18 seen (unintelligible and/or inaudible) are investing in 19 new technology and equipment, adopting to leading best 20 practices across their (unintelligible and/or inaudible) 21 approaches recognizes and encourages the adoption and 22 the development of creative solutions to reduce 23 (unintelligible and/or inaudible). 24 Ladies and gentlemen, I just hope that this 25 will be thoroughly looked at and not just jumped on the

1767 1 bandwagon (unintelligible and/or inaudible) or like in 2 today's culture. But I sure hope that all will be 3 researched, not just following opinions, and we'll -- we 4 will do what's in the best interest for the State of New 5 Mexico, the people of New Mexico (unintelligible and/or 6 inaudible) benefit, not Washington, DC or anyone else. 7 Well, ladies and gentlemen, that's all I have. 8 I appreciate you giving me the opportunity to share my 9 thoughts. Thank you so much. 10 HEARING OFFICER ORTH: Thank you very much, 11 Mr. Stith. 12 Let me go to Ms. Painter next, if she's on the 13 platform. 14 I do not see her on the platform. 15 I did see one Call-in User, though. Let me 16 see. 17 Call-in User Number 9, I'm unmuting you. 18 Would you identify yourself, please. 19 Who is this? 20 Okay. I'm not hearing anything. 21 Call-in User Number 15, I'm unmuting you. 22 Would you identify yourself, please. 23 Hello? 24 No. 25 Okay. Those are the two Call-in Users I see.	1769 1 MS. CARTER: And I will not take five minutes, 2 but thank you. I -- I wanted to speak just very briefly 3 about the -- some of these proposed regulations, and 4 particularly about the -- the ozone precursor rules. 5 Oil and gas pollution are taking a toll on our 6 air, water and health in New Mexico, and it's 7 particularly has an effect on rural and tribal 8 communities, and, of course, children. There's very 9 high rates of asthma and other respiratory ailments in 10 this area, and it's, of course, been exacerbated with -- 11 with the pandemic. 12 I do support the Governor's -- our Governor's 13 call for nation-leading strict oil and gas pollution 14 rules, and I think that the EIB must strengthen the 15 proposed ozone precursor rules, because we want to 16 protect those who live in the areas close to these -- to 17 production, to oil and gas production. 18 And an important way we can do this, for 19 example, is by adopting regulations that require more 20 frequent inspections of the equipment, inspections that 21 would check for leaks. Cutting down leaks in the oil 22 and gas production equipment has made a -- can make a 23 big difference in the emissions and has been -- this has 24 been implemented successfully in Colorado, and I think 25 it's an important thing that we should consider doing.
1768 1 I don't see Ms. Painter on the platform. 2 So let me move to Janet Carter. 3 Janet Carter. I think I saw Ms. Carter. 4 There's Ms. Carter. 5 Ms. Carter, can you hear me? 6 MS. CARTER: Yes, I can. Thank you. 7 I won't -- my name is Janet Carter, and -- 8 HEARING OFFICER ORTH: Hold on one second. 9 Ms. Carter, hold on one second. 10 MS. CARTER: Okay. 11 HEARING OFFICER ORTH: First I need you to 12 spell your name. 13 MS. CARTER: C-A-R-T-E-R is my last name, and 14 first name is J-A-N-E-T. 15 HEARING OFFICER ORTH: Thank you. 16 And if you would raise your right hand. 17 Do you swear or affirm to tell the truth? 18 MS. CARTER: I do. 19 HEARING OFFICER ORTH: Thank you. 20 JANET CARTER 21 having been first duly sworn or affirmed, gave 22 public comment as follows: 23 PUBLIC COMMENT 24 HEARING OFFICER ORTH: I'll start your five 25 minutes now.	1770 1 And I think we should look at other means that 2 we can cut down the existing emissions leaks in oil and 3 gas coming in these -- that's leaking in these 4 production areas to keep the air as clean as possible. 5 We owe it to our children and to our grandchildren. 6 We've had a very hot, dry, warm summer. We're 7 going to have a lot more in the future. And we -- and 8 not only do we need to get a -- to transition to clean 9 energy, we need to make that the -- the fossil fuel 10 energy that we still have and still produce much more 11 climate friendly and reduce emissions every way we can. 12 And that's all I want to say, but I want to 13 thank you for the time to speak. Thank you. 14 HEARING OFFICER ORTH: Thank you very much, 15 Ms. Carter. 16 We'll move, then, to Karl Braithwaite. 17 I remember Mr. Braithwaite was on the Board a 18 long time ago. 19 Hello, Mr. Braithwaite. 20 MR. BRAITHWAITE: Hello. I'm -- I'm surprised 21 you remember. Thank you for remembering. That was -- I 22 was the Chair -- 23 HEARING OFFICER ORTH: Of course. 24 If you -- 25 MR. BRAITHWAITE: Spell my name?

1771 1 HEARING OFFICER ORTH: Yes. 2 MR. BRAITHWAITE: It's K-A-R-L. 3 HEARING OFFICER ORTH: Yes, you were. Yes, 4 please. 5 MR. BRAITHWAITE: Last name is Braithwaite, 6 B-R-A-I-T-H-W-A-I-T-E. 7 HEARING OFFICER ORTH: Thank you very much. 8 And if you'd raise your right hand. 9 Do you swear or affirm to tell the truth? 10 MR. BRAITHWAITE: Yes. 11 HEARING OFFICER ORTH: Thank you so much. 12 KARL BRAITHWAITE 13 having been first duly sworn or affirmed, gave 14 public comment as follows: 15 PUBLIC COMMENT 16 HEARING OFFICER ORTH: I'll start your five 17 minutes now. 18 MR. BRAITHWAITE: Okay. Thank you. 19 Yes. In the mid-1980s I was the Chair of the 20 Environmental Improvement Board. We adopted a number of 21 good provisions, but we couldn't get everything done 22 that needed to be done, and we're still working on it 23 now. 24 I'd like to address a couple of specific 25 things.	1773 1 in on pollution have faced delays that I think were not 2 warranted, but happened. And so we're behind in this 3 area. And it's very good to see the Environment 4 Department moving forward with some very substantial 5 ozone regulations that will be very beneficial to the 6 public. It's important that the communities close to 7 those emissions are kept in the forefront. 8 There are many other parts of this regulation 9 to address. I think it's a good -- good job, and I 10 would urge strengthening it in a few key areas. 11 And I thank you very much for the time to 12 participate. 13 HEARING OFFICER ORTH: Thank you very much, 14 Mr. Braithwaite. 15 MR. BRAITHWAITE: Thank you for remembering 16 me. It's nice. 17 HEARING OFFICER ORTH: We had a good time. 18 We'll move, then, to Michael Sells, see if 19 he's on the platform. 20 I see Mr. Sells. 21 Can you hear me? 22 Mr. Sells? 23 I've unmuted you. 24 Can you hear me? 25 It might help to call back in, Mr. Sells. We
1772 1 One is I think it's really important that this 2 legislation, this -- these regulations have very strong 3 self-reporting requirements from the industry across the 4 Board. We have just a handful, I think maybe seven, 5 inspectors now in the state. They will never be able to 6 cover the land that needs to be covered. But if they 7 receive full, honest reports, using new technology to 8 track their own emissions and understand them, they'll 9 probably be surprised a bit at how much they impact the 10 environment. 11 And so it's important that not just some of 12 the old techniques of monitoring be required, but there 13 are many new ones. We're learning some very interesting 14 things from remote monitoring, even space and airplanes, 15 and if we don't have that, we know in the future there 16 is likely to be pressure on state governments when 17 economy -- the economy goes down a bit. We don't want 18 that to occur. So a self-reporting requirement will 19 make it so that we have the data that we need and even 20 allow citizens to participate in assisting. 21 So I think that's a really key point, and I 22 want to make that very strongly. 23 My second point is when it comes to the ozone 24 precursors, we've known for quite a while that the 25 ambient air quality criteria documents that help zero us	1774 1 can't hear anything at all. 2 Move, then, to Stacie Slay. Here we go. 3 Ms. Slay, can you hear me? 4 MS. SLAY: Can I ask you to hang on just a 5 second? I am here. I am sorry. I am speaking to a 6 medical provider. I have a growth on my eye that's got 7 to be removed, and the call just came in. So I 8 apologize, but I cannot speak now. 9 HEARING OFFICER ORTH: All righty. We'll try 10 again. 11 MS. SLAY: Thank you. 12 HEARING OFFICER ORTH: Stan Renfro is next. 13 Mr. Renfro? 14 MR. RENFRO: Yes. 15 HEARING OFFICER ORTH: If you would please 16 spell your name. 17 MR. RENFRO: R-E-N-F-R-O. 18 HEARING OFFICER ORTH: Thank you. 19 Raise your right hand. 20 Do you swear or affirm to tell the truth? 21 MR. RENFRO: I do. 22 HEARING OFFICER ORTH: Thank you. 23 24 25

1775 1 STAN RENFRO 2 having been first duly sworn or affirmed, gave 3 public comment as follows: 4 PUBLIC COMMENT 5 HEARING OFFICER ORTH: We'll start your five 6 minutes now. 7 MR. RENFRO: Greed causes methane bleeding. A 8 million tons of methane visible from space occludes the 9 earth from sight of New Mexico. Wells churn across the 10 street from Lybrook Elementary School and up against 11 people's homes and hogans, laying waste to people's 12 lives and health each day. 13 But it's what those flares and leaks represent 14 that make me see red. It's so wasteful, so poorly 15 conceived. As a society we squander, squander, 16 squander. The methane that's flared or leaked into the 17 atmosphere is natural gas after all, the same natural 18 gas we use to heat our homes, boil our pasta. 19 Lest we forget in 2014 NASA revealed the 20 methane anomaly in the Four Corners region years ago, 21 years ago, years ago. It's still there. It's seeping 22 gases. It's rusting pump jacks. It's poison wells. 23 It's crashing. It's cracking pavement. 24 Great horned owls watching us. 25 Thank you.	1777 1 Well, I'm a -- I'm an Episcopalian priest here 2 in Farmington. I serve three congregations in Upper 3 Fruitland, Farmington and Huerfano. I've been here for 4 three years. I moved here in 2018. 5 And I am surprised because the people in my 6 congregation have asthma. And a long time ago people 7 came to the Southwest to -- for the good -- for the good 8 air. They came for sanitariums and to get well. And it 9 just struck me as odd that in rural Northwestern New 10 Mexico there would be a large concentration of people 11 fighting asthma. I mean, these -- these people never 12 lived in Los Angeles, Chicago or LA -- or New York, and 13 they had asthma. 14 And -- and I learned from my colleague that 15 there was the ozone. The air here is not the best. And 16 it just struck me as very odd that today these people 17 are in their 70s and 60s and they've lived here all 18 their life and they're -- they're battling asthma. 19 And then on top of that, with the fires in 20 California and the surrounding areas, it's -- it's 21 own -- it's -- they have to -- they have to go inside 22 their homes. 23 I mean, this is Northwestern New Mexico. It's 24 a place where the sun shined, and we're supposed to 25 enjoy the sunshine and the air, and people come here to
1776 1 HEARING OFFICER ORTH: Thank you very much, 2 Mr. Renfro. 3 Let's go back to Mr. Sells. 4 Mr. Sells, can you hear me? 5 MR. SELLS: Yes. 6 HEARING OFFICER ORTH: Terrific. I can hear 7 you, as well. 8 If you would spell your name, please. 9 MR. SELLS: M-I-C-H-A-A-E-L S-E-L-L-S, last 10 name. 11 HEARING OFFICER ORTH: Thank you. 12 Raise your right hand. 13 MR. SELLS: Okay. 14 HEARING OFFICER ORTH: Do you swear or affirm 15 to tell the truth? 16 MR. SELLS: Yes. 17 HEARING OFFICER ORTH: Thank you. 18 MR. SELLS: Swear -- 19 MICHAEL SELLS 20 having been first duly sworn or affirmed, gave 21 public comment as follows: 22 PUBLIC COMMENT 23 HEARING OFFICER ORTH: I'll start your five 24 minutes now. 25 MR. SELLS: Okay.	1778 1 live here, and -- I'm just a little concerned about 2 that. It just strikes me as very odd for some place in 3 rural New Mexico -- Northwestern New Mexico to have so 4 many people, my congregation's battling asthma. It just 5 strikes me as very, very odd. 6 And on top of that, I -- I'm not against the 7 oil and gas industry. I want to make sure that the 8 people in my congregation have jobs, they have food, 9 shelter and clothing for their family. I don't want the 10 oil companies to start -- you know how oil companies can 11 play with their employees and say, oh, the environmental 12 groups want this so they want us to add all this to your 13 work load, boom, boom, boom, with all these checklists, 14 and so then the -- they get the -- they get the workers 15 agitated and -- against the environmental groups and 16 say, oh, and then they're going to increase their 17 workload, and to go through the checklists to make sure 18 there is no leakage. 19 And there just can be -- they can -- these 20 companies know how to agitate these employees and play 21 with the people. And so there's an agitation between 22 our environmental groups and people who gain a living 23 from the oil and gas industry. 24 So I know the regulations are done and 25 written, but I want to make sure -- ensure that the

1779 1 employees are not pushed to their limits. Safety is of 2 utmost importance, and I don't want them to just add to 3 their work lists. I mean, some of them work 12-, 4 14-hour shifts. And when you're doing a checklist and 5 you live in the community and their childrens are 6 growing in the community, they -- I'm sure they're 7 concerned about the air quality in their communities. 8 Their grandparents, their children, their 9 spouses live in the same community, and their spouses 10 are fighting asthma, but their work -- that's where they 11 get their livelihood, to put food on the table. 12 So I don't -- I don't want to be manipulated 13 by these companies, and these regulations give some 14 sense of power to the community, give some sense of 15 power to the employees. 16 So that's -- those are -- those are the things 17 on my mind. I -- like I do, I serve Huerfano community, 18 I work with the communities in Nageezi, Counselor, and 19 we see a bunch of -- bunch of new equipment coming in 20 there, and we see -- we see them burning off the -- 21 burning off the excess. 22 And you listen to the grandmothers, and they 23 talk about fracking, and you -- you hear about the 24 deformed animals, the deformed sheep, the deformed cows, 25 and that just gives -- it just sends an awful chill down	1781 1 HEARING OFFICER ORTH: Thank you. 2 And raise your right hand. 3 Do you swear or affirm to tell the truth? 4 MS. SLAY: Yes. 5 HEARING OFFICER ORTH: Thank you. 6 STACIE SLAY 7 having been first duly sworn or affirmed, gave 8 public comment as follows: 9 PUBLIC COMMENT 10 HEARING OFFICER ORTH: I'll start your five 11 minutes now. 12 MS. SLAY: Thank you. 13 And as I said, I am Stacie Slay, and I live in 14 La Plata, New Mexico, which is about 10 miles northwest 15 of Farmington. 16 I would like to thank the Environmental 17 Improvement Board for this opportunity to provide my 18 comments. So thank you very much. 19 I have MS and a hole in my heart and have 20 lived in this community since 1996. I mention my 21 medical issues because they are of issue to your 22 regulations. I live in a small community north of 23 Farmington, and we have seven families out here age 24 ranging from the very young to the really old, other 25 people with problems just like me, and we're surrounded
1780 1 my spine, about this is how these people are living out 2 in Huerfano, Nageezi. 3 And there's -- there's tension there, because 4 their children are working with the oil and gas 5 industry. They get their little tiny checks from the 6 oil and gas industry. And so there's a bit of tension. 7 And I think these regulations will help ease that if 8 they're well written to protect the community, protect 9 the employees. 10 HEARING OFFICER ORTH: Would you wrap up, 11 please, Mr. Sells. 12 MR. SELLS: Yes. 13 And that is all I have to say, Ms. -- ma'am. 14 HEARING OFFICER ORTH: Thank you so much. 15 All right. We'll go back to Ms. Slay and then 16 Ms. Costello and Mr. Beall. 17 Let's see. Stacie Slay. 18 Hello. Can you hear me? 19 MS. SLAY: Yes. I can hear you fine. 20 Can you hear me? 21 HEARING OFFICER ORTH: Yes. 22 All right. If you would please spell your 23 name. 24 MS. SLAY: Sure. It's Miss Stacie Slay, 25 S-T-A-C-I-E S-L-A-Y.	1782 1 by oil wells, gas wells, mainly gas wells. 2 And your regulations can go a long way to 3 determining my health in the future, as well as all of 4 these families. I appreciate everything you've done so 5 far, and push you to try even harder, even faster to 6 make certain changes that will improve not only the 7 health quality of everybody involved. These changes can 8 also help climate. They can also help tourism here. 9 And as I heard from the earlier testimony, a 10 lot of people have some physical challenges, medical 11 challenges that they really, really had waited for years 12 for -- for regulations to be put in place that we can 13 count on to impact our health and quickly. Some of us 14 don't have much longer to live. 15 But anyway, I wrote some things down that I 16 wanted to keep on track with, and so I just wanted to 17 mention that the satellite photos show enormous amount 18 of methanes completely covering the Four Corners area. 19 While the NMED has put forward strong 20 proposals, there are three critical improvements that 21 the EIB should make to protect communities and address 22 major sources of pollution. 23 And first would be to protect the living 24 closest to development by requiring more frequent 25 inspections to find leaks. And, you know, if that means

1783 1 more people to go looking, fine. There's more 2 technology. You can fly planes over now. Anyway, back 3 on track. 4 Ensure strong requirements for operators to 5 control pollution during the completion of an oil well, 6 as well as a gas well, and as for -- as redevelopment of 7 existing wells are concerned, too. 8 Also, we need to strengthen requirements to 9 cut pollution from pneumatic controllers. Big problem 10 here. The smell up here (unintelligible and/or 11 inaudible) pneumatic controllers that are used in oil 12 and gas production. The devices are the second largest 13 source of oil and gas methane emissions in New Mexico. 14 And I can testify for that. Amen brother. NMED should 15 require companies to inspect pneumatics for leaks and 16 accurate and timeline to retrofit equipment to zero 17 bleed or zero emission pneumatic controllers. 18 I apologize. I have brain damage so speaking 19 especially under a time limit is not always good for me. 20 But anyway, that is the main portion of it. 21 Largely, the oil and gas leaks are avoidable. They are 22 harmful emissions to everybody, wildlife, climate, 23 everybody. It's -- it's carcinogenic even. 24 But thank you for considering these points, 25 and I appreciate the EIB for allowing me to have this	1785 1 family physician living in -- excuse me -- Durango, 2 Colorado, which is in La Plata County. 3 Rather than comment on the details of your 4 proposed methane regulations, I'd like to review some of 5 the history of the federal methane rule and why I think 6 state laws are especially important. 7 Our La Plata County Commissioner, Gwen 8 Lachelt, was instrumental in the late Senator John 9 McCain's deciding vote to pass the federal methane rule 10 during the Obama administration. It was one of many 11 Obama era protections that later came under attack. 12 President Trump proposed a stay on the methane rule for 13 new fracking wells. 14 In July, 2017, I joined Don Schreiber and 15 others in Washington, DC, where we testified before the 16 EPA in opposition to the stay, that is to uphold the 17 application of the methane rule to new fracking 18 operations. Here's a portion of my testimony which is 19 still relevant today. 20 I'm currently living in Durango, Colorado, 21 under the vast Four Corners methane cloud. These clouds 22 are usually associated with urban areas, but this one, 23 the largest in the country at 2,500 square miles, is 24 rural. With the dramatic increase in fracking and 25 associated fugitive emissions, methane is now a rural
1784 1 time to stumble over these concerns of mine. 2 HEARING OFFICER ORTH: Thank you very much, 3 Miss Slay. 4 I will go now to Lauri Costello. 5 Let's see. Ms. Costello, I've unmuted you. 6 Can you hear me? 7 MS. COSTELLO: I can. 8 HEARING OFFICER ORTH: Oh, good. I can hear 9 you, as well. 10 If you would please spell your name. 11 MS. COSTELLO: L-A-U-R-I C-O-S-T-E-L-L-O. 12 HEARING OFFICER ORTH: Thank you. 13 And raise your right hand. 14 Do you swear or affirm to tell the truth? 15 MS. COSTELLO: I do. 16 HEARING OFFICER ORTH: Thank you. 17 LAURI COSTELLO 18 having been first duly sworn or affirmed, gave 19 public comment as follows: 20 PUBLIC COMMENT 21 HEARING OFFICER ORTH: I'll start your five 22 minutes now. 23 MS. COSTELLO: Thank you. 24 Greetings from your neighbors to the north. 25 My name is Lauri Costello. I'm a retired	1786 1 health issue in the very communities that are least 2 equipped to deal with it. 3 Furthermore, the Native American population in 4 Northwest New Mexico has suffered significant and 5 numerous health effects from fracking wells that are 6 only now being documented. The Indian Health Service 7 has been ineffective in diagnosing these issues, let 8 alone treating them. A stay on the regulations for 9 methane capture in new wells is reckless. They are the 10 very wells that should be state-of-the-art for 11 protection of public health and of the environment. 12 Ours were among a total of 116 comments in 13 opposition to the stay, that is comments in support of 14 upholding the methane rule. There were two comments in 15 favor of the stay, one reportedly from the oil and gas 16 industry. Nonetheless, the stay was approved, showing 17 the complete dismissal of public input. 18 According to Keating Research, the oil and gas 19 industry in Colorado favors our stricter rules that 20 require them to find and fix methane leaks. These rules 21 improve efficiency and worker safety while decreasing 22 methane pollution. And the costs are minimal, if not 23 outweighed by the increased revenue from captured 24 natural gas. 25 Researchers at Colorado State University have

1787 1 documented asthma attacks in children that are caused by 2 the oil and gas industry. They are directly related to 3 the number of fracking wells. In 2018, Colorado ranked 4 third among the states with upwards of 32,000 such 5 childhood asthma attacks annually, while number one 6 Texas had almost 145,000. 7 Although New Mexico is not one of the top 20 8 states for childhood asthma attacks caused by oil and 9 gas, you sadly have two entries in the top 30 counties 10 in the US for these asthma attacks in children. Lea 11 County is number two, and Eddy County is number 29. 12 Again let me remind you that was 2018 data. 13 Although I am a staunch supporter of federal 14 protections for public health, including universal 15 health care, it is painfully obvious that the federal 16 government is unable to provide them. The most recent 17 rating of America's most and least trusted professions 18 as reported by Forbes in 2018 ranks nurses, as usual, as 19 most trusted, followed by physicians and pharmacists. 20 Car salespeople are second from the bottom. Below them 21 are members of Congress. They are the least trusted in 22 our nation. That's US Congress. 23 This is why it is imperative for New Mexico to 24 enact meaningful methane protections. Furthermore, air 25 pollution increases susceptibility to COVID infection,	1789 1 HEARING OFFICER ORTH: You're very soft. 2 Can you speak up? 3 MR. BEALL: Yes. 4 How's this? Can you hear me now? 5 HEARING OFFICER ORTH: Well, that's -- it's 6 hard to hear you. 7 MR. BEALL: I'm sorry. I can't do anything. 8 Please go to your next caller. 9 HEARING OFFICER ORTH: Okay. Thank you. You 10 can also put your comments in writing to Pam, and I'm 11 happy to call on you again if you get a better 12 connection. 13 MR. BEALL: Okay. 14 Bye-bye. 15 HEARING OFFICER ORTH: Thank you. 16 Bye. 17 All right. I don't see anyone else in the 18 chat. 19 Let me look for Ms. Painter again. 20 Nope. I don't see her. 21 All right. Let's return to the technical 22 case. 23 I believe, Ms. Gutierrez -- oh, I see 24 Ms. Sheehan. I was rushing to Kinder Morgan. Very 25 sorry.
1788 1 and people with respiratory conditions are at high -- 2 higher risk of serious COVID illness and death. 3 Unfortunately in Colorado, despite our 2019 legislation 4 requiring priority of public health over fracking 5 profits, our Governor has failed to hold industry 6 accountable during the pandemic. 7 I wish you all the best as you seek to protect 8 all of us from the known and preventible adverse health 9 effects of methane and its co-conspirators in air 10 pollution-related death and disease. 11 Thanks for listening. Keep up the great work. 12 HEARING OFFICER ORTH: Thank you, 13 Dr. Costello. 14 MS. COSTELLO: You're welcome. 15 HEARING OFFICER ORTH: All right. We will go 16 to Andrew Beall. 17 In the event you're on the platform and you 18 haven't already spoken, please reach out in the chat. 19 I'm happy to call for you. And in the event you have 20 any trouble with the chat, please reach out to Pam Jones 21 at 660-4305. 22 Mr. Beall, can you hear me? 23 MR. BEALL: Yes, I can hear you. 24 HEARING OFFICER ORTH: Oh. 25 MR. BEALL: Can you hear me?	1790 1 Ms. Sheehan, I believe you're going to call 2 two more witnesses on behalf of GCA. 3 MS. SHEEHAN: That's correct. Thank you, 4 Madam Hearing Officer. 5 Good afternoon, Madam Chair and Members of the 6 Board. 7 The GCA will now present its next two 8 technical witnesses who will be discussing the 9 monitoring requirements set forth under Section 113C of 10 the proposed rule. 11 I will begin by calling Mr. Copeland, who will 12 be testifying regarding Section 113C.(3) of the 13 September 16 version of the rule, followed by Mr. Randy 14 Bartley, who will be testifying regarding 15 Section 113C.(4) of the September 16 version of the 16 proposed rule. 17 In the interest of efficiency, although they 18 are testifying regarding different subparts of 19 Section 113C, I have proposed to offer them both up at 20 the same time for questions the parties or the 21 Board's -- or the Board Members may have at the 22 conclusion of Mr. Bartley's testimony, if that's 23 acceptable. 24 HEARING OFFICER ORTH: Yes. Thank you very 25 much for suggesting that. I think that's best.

1791 1 MS. SHEEHAN: Excellent. 2 I will begin with Mr. Copeland. 3 I do not see him as a panelist yet. Oh, there 4 he is. 5 For everyone's benefit, the exhibits 6 associated with Mr. Copeland's testimony regarding 7 Section 113 are GCA Exhibit 15, Mr. Copeland's advance 8 written direct testimony, and GCA Exhibit 16, his 9 resume. 10 MARK COPELAND and RANDY BARTLEY 11 (Relating to Topic Order 24) 12 having been first duly sworn or affirmed, was 13 examined and testified as follows: 14 DIRECT EXAMINATION OF MARK COPELAND 15 BY MS. SHEEHAN: 16 Q. Mr. Copeland, have you already provided your 17 name for and been sworn in by the court reporter? 18 A. Yes, I have. 19 MS. SHEEHAN: For the record, Mr. Copeland has 20 already adopted his prefiled written direct and rebuttal 21 testimony in this proceeding, and both have been entered 22 into the hearing record, along with his resume. 23 Q. Mr. Copeland, did you provide prefiled direct 24 testimony concerning Section 113 of the proposed rule? 25 A. Yes, I did.	1793 1 owners/operators to use the type of maintenance plans 2 that we develop and utilize in compliance with existing 3 federal regulations. 4 Therefore, my concerns with Section 113 are 5 addressed by the Department's revisions in this section 6 and set forth by NMED's Rebuttal Exhibit 23. 7 Q. Would you encourage the Environmental 8 Improvement Board to adopt the Department's Section 113 9 provisions as set forth in NMED Rebuttal Exhibit 23? 10 A. I would. 11 Q. Thank you, Mr. Copeland. 12 Does that conclude your testimony on this 13 section? 14 A. Yes, it does. 15 MS. SHEEHAN: Thank you. 16 Madam Hearing Officer, turning now to 17 Mr. Randy Bartley. 18 Mr. Bartley's testimony address the GCA's 19 proposed amendments to emissions testing requirements 20 for engines and the Department's May 6 version of the 21 proposed rule. Since that time, NMED has adopted the 22 GCA's changes to Section 113, which is currently set out 23 in Section 113C.(4)(i) in NMED Rebuttal Exhibit 23. 24 The GCA has offered a minor amendment to that 25 adopted provision of the rule which it has presented to
1792 1 Q. What is the general purpose of your direct 2 written testimony in this proceeding regarding 3 Section 113 of the proposed rule? 4 A. My testimony relates to the engine maintenance 5 requirements in Section 113. The purpose of my prefiled 6 direct written testimony is to explain why the engine 7 maintenance requirements within 113C.(1) should be 8 modified and expanded to allow engine owners to deviate 9 from the minimum manufacturer-required maintenance 10 schedules. 11 Q. Thank you, Mr. Copeland. 12 Have you reviewed NMED Rebuttal Exhibit 23, 13 which is the September 16 version of the rule? 14 A. I have. 15 Q. Are the GCA's proposed amendments to 16 Section 113 incorporated in NMED Rebuttal 23? 17 A. They are not. 18 Q. Are your concerns regarding Section 113 of the 19 proposed rule fully addressed by NMED's amendments to 20 that section as set forth in NMED Rebuttal Exhibit 23? 21 A. Although the Department's amendments to 22 Section 113 are set forth by NMED Rebuttal Exhibit 23 23 are different than the amendments GCA proposed with 24 respect to engine maintenance standards, the 25 Department's amendments do appear to allow	1794 1 the parties as GCA Exhibit 35. NMED has indicated that 2 it has no objection to these amendments. Given this 3 cooperation and in an effort to streamline this 4 proceeding, I propose to present Mr. Bartley, have him 5 adopt his written testimony in this proceeding, briefly 6 summarize his surrebuttal testimony, and then offer him 7 up for any questions others may have. 8 HEARING OFFICER ORTH: That sounds like a good 9 way to go. Thank you. 10 MS. SHEEHAN: Excellent. 11 And just for everyone's benefit, the exhibits 12 associated with Mr. Bartley's testimony are GCA Exhibits 13 25, Mr. Bartley's prefiled direct written testimony, and 14 GCA Exhibit 26, his resume. 15 I would now request that he be sworn in. 16 HEARING OFFICER ORTH: Okay. 17 Mr. Bartley, if you would raise your right 18 hand. 19 Do you swear or affirm to tell the truth? 20 MR. BARTLEY: I do. 21 HEARING OFFICER ORTH: Thank you. 22 And please spell your last name for the court 23 reporter. 24 MR. BARTLEY: It is B-A-R-T-L-E-Y. 25

1795 1 DIRECT EXAMINATION OF RANDY BARTLEY 2 BY MS. SHEEHAN: 3 Q. Mr. Bartley, will you please state your name 4 for the record. 5 A. Good afternoon, Madam Hearing Officer, Madam 6 Chair, Members of the Environmental Improvement Board. 7 My name is Randy Bartley. 8 Q. And what is your current employment position? 9 A. I'm the chief executive officer at 10 B.enviroSAFE, LLC, doing business as BAIR, B-A-I-R. 11 We're an environmental consulting and emissions testing 12 company. 13 Q. Can you please briefly describe your 14 educational and professional qualifications. 15 A. Sure. I received a bachelor of business 16 administration from the University of Oklahoma in energy 17 management, with a minor in finance, in December 18 of 2003. 19 I've been working in the oil and gas industry 20 for the past 26 years. I have over 20 years of 21 experience related to emission testing, natural gas 22 compressor engines. And through training and experience 23 I've become familiar with the emission standards that 24 apply to sources in the oil and gas industry, including 25 engines, as well as the emissions testing -- emissions	1797 1 A. I have. 2 Q. Are the GCA's proposed amendments to 3 Section 113C.(3) of the proposed rule adopted in NMED 4 Rebuttal Exhibit 23? 5 A. They are. 6 Q. Are your concerns regarding Section 113C.(3) 7 fully addressed by NMED's amendments to that provision 8 as set forth in NMED Rebuttal Exhibit 23? 9 A. They are not. 10 Q. Could you -- could you please explain why they 11 are not? 12 A. Yes. While NMED included the GCA's proposed 13 revisions to Section 113C.(3) by adding new paragraph 14 sub -- or Subparagraph (i), the Department made 15 additional revisions to what is now Section 113C.(4) 16 that creates the need to further amend the language of 17 what is now Paragraph 113C.(4)(i) of Exhibit 23. 18 The earlier version of the proposed rule 19 indicated that a portable analyzer could be used for 20 both initial and annual testing. As it has now been 21 revised in NMED Rebuttal Exhibit 23, the rule language 22 now suggests that portable analyzers can only be used 23 for the subsequent annual testing and not initial 24 emissions tests for engines. 25 As stated in my direct testimony, CO is a
1796 1 testing requirements for those sources. 2 I'm familiar with and have conducted emissions 3 tests using both portable analyzers and traditional 4 stack testing equipment for engines and other sources. 5 Q. Thank you, Mr. Bartley. 6 A copy of your resume has been provided as GCA 7 Exhibit 26; is this correct? 8 A. That is correct. 9 Q. And you have submitted prefiled direct written 10 technical testimony in this proceeding, which has been 11 provided as GCA Exhibit 25; is that correct? 12 A. Yes, that's correct. 13 Q. Do you have any changes to your direct 14 prefiled written testimony? 15 A. I do not. 16 Q. Do you adopt your prefiled direct written 17 testimony here today? 18 A. I do. 19 Q. Mr. Bartley, could you please share on your 20 screen GCA Exhibit 35? 21 Madam Hearing Officer, could you please give 22 him sharing privileges? 23 Excellent. Thank you, Mr. Bartley. 24 Mr. Bartley, have you reviewed NMED Rebuttal 25 Exhibit 23, the updated version of the proposed rule?	1798 1 reliable surrogate for showing compliance with the 2 hydrocarbon emission standard regardless of whether 3 you're testing using a formal EPA reference method test 4 or using a portable analyzer. Therefore, CO should be 5 able to be used as a surrogate for nonmethane, nonethane 6 hydrocarbons, NMNEHC, in the initial performance test 7 and subsequent annual testing. 8 Q. Do you have any suggested ways to correct this 9 issue? 10 A. I do. I suggest simply removing the language 11 for emissions testing using a portable analyzer from 12 Paragraph 113C.(4)(i) in NMED Rebuttal Exhibit 23 as 13 shown in GCA Exhibit 35. 14 Q. Is it your understanding that the Department 15 supports this change? 16 A. It is. 17 Q. Thank you, Mr. Bartley. 18 Does this conclude your surrebuttal testimony 19 in this proceeding? 20 A. It does. Thank you. 21 Q. Thank you. You can stop sharing your screen 22 now, I believe. 23 Madam Hearing Officer, before I offer both 24 witnesses up for questions, I would like to move for the 25 admission of GCA Exhibit 35 into the hearing record.

1799 1 HEARING OFFICER ORTH: Thank you. 2 Let me pause for a moment. 3 I don't remember an objection to that one. 4 Oh, that's the one you sent yesterday, I think. 5 All right. Let me pause for a moment in the 6 event there's an objection to GCA Exhibit 35. 7 Hearing nothing, it's admitted. Thank you. 8 MS. SHEEHAN: Thank you, Madam Hearing 9 Officer. 10 (Exhibit GCA 35 admitted into evidence.) 11 HEARING OFFICER ORTH: All right. If any 12 other party has a question of this GCA panel, please 13 turn on your camera. 14 I see Ms. Katz. 15 MS. KATZ: Thank you, Madam Hearing Officer. 16 CROSS-EXAMINATION 17 BY MS. KATZ: 18 MS. KATZ: I just have one question because I 19 need to be clear, because I did have Ms. Kuehn state in 20 her presentation that the -- that discussed this 21 provision and stated that we were adopting that change. 22 So did you hear that, Mr. Bartley? 23 MR. BARTLEY: Yes. 24 That change is being adopted? 25 MS. KATZ: Yes.	1801 1 Member Bitzer? 2 MEMBER BITZER: No questions. Thank you. 3 HEARING OFFICER ORTH: Thank you. 4 Member Garcia? 5 MEMBER GARCIA: No questions. Thank you. 6 HEARING OFFICER ORTH: Thank you. 7 And Member Honker. 8 MEMBER HONKER: No questions. Thank you. 9 HEARING OFFICER ORTH: Thank you. 10 Well, Ms. Sheehan, I think your panel has 11 escaped without fierce interrogation. 12 So thank you very much, gentlemen, 13 Mr. Copeland and Mr. Bartley. 14 MS. SHEEHAN: Thank you, Madam Hearing 15 Officer. 16 HEARING OFFICER ORTH: Thank you, Ms. Sheehan. 17 I think now we're to Kinder Morgan. 18 I see Ms. Gutierrez on the screen. 19 Ms. Gutierrez. 20 MS. GUTIERREZ: Thank you, Madam Hearing 21 Officer. 22 So consistent with the -- our discussion this 23 morning, I'd like to put up a panel of three witnesses, 24 have them present their testimony, and then make them 25 available for cross. To additionally expedite this
1800 1 Did you hear Ms. Kuehn's testimony to that 2 effect just a little while ago? 3 MR. BARTLEY: Yes, ma'am. This morning, I 4 did. 5 MS. KATZ: Okay. Thank you. 6 HEARING OFFICER ORTH: Thank you, Ms. Katz. 7 Are there any other parties with questions of 8 this GCA panel? 9 Not seeing anyone else, I'm going to turn to 10 the Board for their questions. 11 If you're an attendee on this platform, please 12 reach out through the chat with any questions. 13 Madam Chair? 14 CHAIR SUINA: No questions at this time. 15 Again just want to reiterate I like to see the 16 collaboration between the various parties on resolving 17 some of these details. Thank you so much. 18 HEARING OFFICER ORTH: Thank you. 19 Vice-Chair Trujillo Davis. 20 VICE-CHAIR TRUJILLO DAVIS: No questions at 21 this time. Thank you. 22 HEARING OFFICER ORTH: Thank you. 23 Member Cates? 24 MEMBER CATES: No questions. Thank you. 25 HEARING OFFICER ORTH: Thank you.	1802 1 hearing process, we are prepared to provide some 2 surrebuttal regarding engines and turbines, but we would 3 like to reserve the opportunity to respond to any 4 proposal or presentation that NPS puts up on Friday, if 5 the parties are amenable to that. 6 HEARING OFFICER ORTH: I think we have to 7 agree to that, Ms. Gutierrez, because NPS will be taken 8 out of turn. 9 I see Mr. Brindley on the screen. 10 MS. GUTIERREZ: Mr. Brindley and Ms. Leslie 11 Nolting, who you have had the pleasure of meeting, and 12 then Mr. James Trent. 13 HEARING OFFICER ORTH: Okay. I believe I made 14 them all panelists. 15 All right. So I believe we've heard from 16 Ms. Nolting. 17 Let's start with you, Mr. Brindley, if you 18 would spell your name, please. 19 MR. BRINDLEY: Certainly. First name Vincent, 20 V-I-N-C-E-N-T, last name Brindley, B-R-I-N-D-L-E-Y. 21 HEARING OFFICER ORTH: If you would raise your 22 right hand. 23 Do you swear or affirm to tell the truth? 24 MR. BRINDLEY: Yes, I do. 25 HEARING OFFICER ORTH: Thank you.

1803 1 Now I see Mr. Trent on the screen. 2 Mr. Trent, if you would please spell your 3 name. 4 MR. TRENT: James, J-A-M-E-S, Trent, 5 T-R-E-N-T. 6 HEARING OFFICER ORTH: Thank you. 7 And raise your right hand. 8 Do you swear or affirm to tell the truth? 9 MR. TRENT: Yes. 10 HEARING OFFICER ORTH: Thank you. 11 And just make sure you keep your voice up for 12 the transcript. 13 MR. TRENT: Okay. 14 MS. GUTIERREZ: Thank you, Madam Hearing 15 Officer. 16 VINCENT L. BRINDLEY, LESLIE R. NOLTING 17 and JAMES R. TRENT 18 (Relating to Topic Order 24) 19 having been first duly sworn or affirmed, were 20 examined and testified as follows: 21 MS. GUTIERREZ: For the benefit of the Board 22 and the parties, this testimony will relate to Kinder 23 Morgan direct testimony, Exhibit VI, and rebuttal 24 testimony, Exhibit XIII. 25 And, Madam Hearing Officer, would you please	1805 1 and turbines? 2 A. Yes, I did. 3 Q. Do you have any changes to that testimony? 4 A. I have no changes. 5 Q. Do you adopt your written testimony here 6 today? 7 A. Yes, I do. I adopt it in full. 8 Q. Let me get the slide deck up. 9 Okay. Could you please summarize for the 10 Board your testimony regarding engines and turbines. 11 A. Yes, of course. 12 Good afternoon, Madam Chair and Board Members. 13 Thank you for the opportunity to present 14 technical testimony today. 15 My presentation is really just to present to 16 the Board an introduction to engines and turbines as 17 they are used in the transmission segment. Because the 18 Department already gave us some background, I will be 19 very brief and be available for questions. 20 As a transmission company, Kinder Morgan's 21 function is to move the gas from across long distances 22 to residential and commercial and industrial customers. 23 We operate approximately 15 reciprocating compression 24 engines and 15 combustion turbines in New Mexico that we 25 anticipate will be subject to these proposed rules.
1804 1 give me sharing permissions, please? 2 I will introduce Mr. Brindley while we do 3 that. 4 DIRECT EXAMINATION OF VINCENT L. BRINDLEY 5 BY MS. GUTIERREZ: 6 Q. Mr. Brindley, where are you employed, and what 7 is your current position? 8 A. I am employed by Kinder Morgan. I am a 9 technical supervisor for Division 2 of Kinder Morgan. 10 Q. And how long have you been in that -- oh, I'm 11 sorry. I skipped already. 12 Could you please briefly describe your duties 13 in this position? 14 A. Certainly. I supervise four engine 15 technicians and three control specialists, and I provide 16 direct support to the company's compression facilities, 17 including reviewing engine analyses and maintenance 18 work. 19 Q. And how long have you been in that position? 20 A. For approximately 10 years, but I've worked 21 for Kinder Morgan and its predecessor companies for -- 22 since 2000. 23 Q. And did you submit written direct technical 24 testimony at Kinder Morgan Exhibit VI on the 25 requirements in the proposed rules related to engines	1806 1 In other words, there's approximately 30 units 2 that will exceed the relevant horsepower thresholds in 3 Tables 1 and 3 that are located in the counties subject 4 to this rule proposal. These engines and turbines make 5 the movement of natural gas through our transmission 6 system possible. 7 This slide just shows there are numerous 8 transmission compressor stations along the pipeline 9 network. The engines and turbines recompress the 10 natural gas at each station to push it along to the next 11 station. 12 I wanted to give -- quickly give some context 13 for these engines and turbines. These are very 14 expensive and very large. On the slides shown you can 15 see a reciprocating integral engine on the left and a 16 turbine -- combustion turbine with compressor on the 17 right side. 18 A compressor reciprocating engine typically 19 weighs at least 100,000 pounds and can weigh as much as 20 365,000 pounds. Similarly, a combustion turbine can 21 weigh more than 165,000 pounds. Keeping the size of 22 these machines in mind, it's important when considering 23 certain possible outcomes of the requirements of these 24 rules. 25 For example, if a control would require an

1807 1 engine site to be reconfigured, this could require 2 disassembly of the machine itself, which as you can see 3 would be a significant undertaking. 4 The costs for new engines and turbines are 5 also very high. A new engine can cost \$300,000 for a 6 sub 1,000 horsepower engine to as much as \$7 million for 7 an engine larger than 5,000 horsepower. The price of a 8 new turbine range -- can range from close to 7 million 9 for a turbine of approximately 10,000 horsepower to more 10 than \$10 million for a turbine of approximately 11 30,000 horsepower. In each case not including 12 engineering and installation costs. That's simply the 13 cost of the hardware. 14 And because of the size and complexity of 15 these machines, it takes months and sometimes years from 16 the time an engine and turbine is ordered until the time 17 it is received, installed and ready for operation. 18 So this concludes my portion. 19 I'll pass this to Ms. Leslie, my -- my 20 colleague. 21 MS. GUTIERREZ: Thank you very much, 22 Mr. Brindley. 23 24 25	1809 1 A. Yes. Happy to. 2 Good afternoon, Madam Hearing Officer, Madam 3 Chair and Board Members. 4 Thank you for the opportunity to summarize my 5 testimony on engines and turbines. 6 I will be brief as NMED has accepted our 7 proposed changes on the two issues that I'll discuss, 8 and we understand there are no objections to these 9 changes. I will just describe these briefly for the 10 Board, because although these are agreed upon, they are 11 important changes. 12 First, for emergency engines, we requested a 13 clarification that aligned the reference to emergency 14 engines with federal rules, and NMED has agreed to those 15 changes so as not to disrupt the use of emergency 16 engines in emergency situations when they are needed. 17 We also asked for clarifying changes in 18 reference to the requirement to maintain and repair 19 engines and turbines consistent with manufacturer's 20 recommendations. As NMOGA noted and NMED discussed, 21 manufacturer recommendations may be outdated and 22 reference to good engineering and maintenance practices 23 is an appropriate alternative. 24 Thank you for your time today, and I will pass 25 this to Mr. James Trent on a few of our higher priority
1808 1 DIRECT EXAMINATION OF LESLIE R. NOLTING 2 BY MS. GUTIERREZ: 3 Q. Ms. Nolting, could you please introduce 4 yourself. 5 I think you may be muted if you're speaking. 6 A. Sorry about that. 7 Q. There you go. 8 A. Hi. Thank you. 9 Good afternoon. It's good to see everyone 10 again. 11 My name is Leslie Nolting, and I am an EHS 12 manager at Kinder Morgan, and my position focuses on air 13 permitting and compliance. 14 Q. Ms. Nolting, did you submit written direct 15 technical testimony at Kinder Morgan Exhibit VI 16 regarding the requirements in the proposed rules related 17 to engines and turbines? 18 A. Yes, I did. 19 Q. Do you have any changes to that testimony? 20 And if not, do you adopt your testimony here today? 21 A. I do not have changes to my testimony, and 22 yes, I adopt it in full. 23 Q. Thank you. 24 Could you please summarize for the Board your 25 testimony regarding engines and turbines?	1810 1 issues. 2 MS. GUTIERREZ: Thank you very much, 3 Ms. Nolting. 4 DIRECT EXAMINATION OF JAMES R. TRENT 5 BY MS. GUTIERREZ: 6 Q. Mr. Trent, can we do a quick mike check. 7 I think you may be muted, Mr. Trent. 8 A. Now can you hear me? 9 Q. We can hear you now. Glad we did the mike 10 check. 11 A. Okay. 12 Q. Mr. Trent, where are you employed, and what is 13 your current position? 14 A. I'm employed by Kinder Morgan. I am a staff 15 engineer. 16 Q. And how long have you been in that position? 17 A. I have been in this position for about 11 18 months. However, I've worked with Kinder Morgan or its 19 predecessor companies on engines and turbines and air 20 quality matters for over 20 years, including as the 21 engineering manager for seven years. 22 Q. Thank you. 23 And can you please describe your work 24 experiences for us? 25 A. Yes. In my current role, I work in the

1811 1 engineering design group, focusing on developing scopes 2 for emissions retrofit projects and compression 3 expansion and replacement projects on all of Kinder 4 Morgan's interstate systems. I also work as part of a 5 companywide team finding solutions to achieve compliance 6 under new and proposed rules in New Mexico, Arizona, New 7 York, Pennsylvania and Colorado. 8 In my prior role, I was the manager of the 9 compression engineering and emissions compliance testing 10 group, overseeing a total of 20 employees. My 11 responsibilities included overseeing the scope of new 12 business development projects, which included, without 13 limitation, selecting the type of horsepower that will 14 be installed on these projects, overseeing emissions 15 controls technology projects, working with legal and 16 operations and EHS to address emissions reductions, and 17 developing FERC form data and undertaking special 18 projects. 19 Q. Thank you, Mr. Trent. 20 Did you submit written direct technical 21 testimony at Kinder Morgan Exhibit VI regarding the 22 requirements for engines and turbines? 23 A. Yes. 24 Q. Did you submit written rebuttal technical 25 testimony at Kinder Morgan Exhibit XIII?	1813 1 changes that have been made that Kinder Morgan supports. 2 After that summary, I will address just a 3 couple points clarifying the Department's direct 4 testimony. 5 Q. Thank you, Mr. Trent. 6 And could you just please briefly run through 7 the Board -- with -- sorry -- run through for the Board 8 the NMED's revisions in the September 16 draft that 9 Kinder Morgan supports. 10 A. Yes. I'd be happy to. 11 The changes we support are shown on this 12 slide, and just -- and I just want to tick through them 13 quickly and address a few points in support of a few of 14 these changes that are particularly important for the 15 Board to understand. 16 For the first -- sorry. For the -- first, the 17 Department revised standards for new and existing 18 engines, and we can support these standards. 19 We would also support NMOGA's proposed 20 revision to increase the CO standard to 2 grams, which 21 would assist with the interplay between potential NOx and 22 CO emissions. 23 I do think it is worth noting that even though 24 Kinder Morgan can support these standards and the 25 standards in Table 3, as I'll discuss next, I don't want
1812 1 A. Yes. 2 Q. Do you have any changes to either your written 3 direct or rebuttal testimony set out in Exhibit VI or 4 XIII? 5 A. No changes. 6 Q. Do you adopt the entirety of your written 7 testimony here today? 8 A. Yes. I adopt my written testimony in full. 9 Q. Thank you, Mr. Trent. 10 Could you please summarize for the Board your 11 testimony regarding engines and turbines that you will 12 provide today. 13 A. Yes. I'd be glad to. 14 So good afternoon, Board Members, Madam 15 Hearing Officer, Madam Chair. 16 Thank you for the opportunity to discuss 17 engines and turbines with you today. 18 I'll be presenting on two topics today. 19 First, I'd like to briefly highlight certain 20 changes that the Department has made between the May 21 draft of the proposed rules and the most recent 22 September 16 draft of the proposed rules. The changes I 23 will cover are listed on the slide under the first 24 bullet point. I won't spend much time on most of these, 25 but at the Board's request, we do want to highlight	1814 1 it to get lost that meeting these standards will still 2 require a significant investment to retrofit our engines 3 and turbine fleets. 4 That said, we have said from the beginning 5 that with reasonable regulation there are opportunities 6 for emissions reductions with respect to engines and 7 turbines, and we believe these standards strike an 8 appropriate balance. 9 Additionally, NMOGA put on a sound testimony 10 objecting to the National Park Service's proposal to 11 regulate all engines of all sizes. In other words, 12 including small engines that the Department has not 13 currently proposed to regulate. In an effort to 14 streamline this hearing, we will not reiterate those 15 important points, but Kinder Morgan supports NMOGA's 16 objections to these unreasonable proposals. 17 Q. And, Mr. Trent, I might just ask one 18 clarifying question, and that NMOGA has reserved its 19 opportunity to present that testimony until Friday; is 20 that correct? 21 A. That's correct. 22 Q. Okay. Thank you. 23 Please continue. 24 A. The Department has revised the standards for 25 new and existing turbines, and we support these

1815 1 standards. 2 I want to pause on this Table 3 and briefly 3 talk through how important these changes are. 4 The revised standards for existing turbines 5 are critically important. For turbines in the 1,000 to 6 4,000 brake horsepower range, the only control option 7 for achieving 50 ppm, which was the original proposed 8 limit, is selective catalytic reduction, or SCR. 9 As NMOGA's witnesses described earlier, SCR is 10 a type of postcombustion control system, meaning that it 11 is applied after combustion occurs in the engine or 12 turbine. This is different from other control 13 technologies which are applied to the combustion process 14 itself and tend to be cheaper than SCR. 15 A very important point on this issue is that 16 other control technologies, like water or steam 17 injection, are not available for many turbines in this 18 1,000 to 4,000 brake horsepower size category. 19 Our turbines in this size category are 20 manufactured by Solar Turbines. Water injection is not 21 available for many Solar Saturn turbine models. Even 22 where water injection theoretically could be an option, 23 it is not clear that this would be an advisable control 24 technology considering the large volume of deionized 25 water that it would require.	1817 1 made and that we are asking the Board to adopt was to 2 add a compliance schedule for retrofitting existing 3 turbines. Originally the proposed rules required 4 turbines to be retrofitted within only two years. 5 Because we operate roughly in equal numbers of 6 engines and turbines that would require controls, and 7 because turbines are just as time and cost intensive to 8 retrofit as engines, we proposed a compliance schedule 9 for turbines similar to the existing schedule for 10 engines, which NMED incorporated. 11 Finally, I'd like to highlight two relatively 12 minor but very important revisions that the Department 13 made in response to party testimony, including Kinder 14 Morgan's. 15 First, the Department revised the provision 16 that allows an operator reduced engine hours in lieu of 17 compliance with the emission standards to make clear 18 that only emissions reductions equivalent to those 19 achieved under the standards themselves would be 20 required. They also added the same provision for 21 turbines. We support both of these changes. 22 Second, the Department added a sentence in the 23 engine load equation making clear that if a 24 manufacturer's rated brake-specific fuel consumption is 25 unavailable the operator can use an alternative
1816 1 These points were made clear in Solar 2 Turbine's written testimony. 3 It is important to note that at 50 ppm NOx 4 standard, our GE Frame 3 turbines, which are larger than 5 4,000 horsepower, would also require SCR. For our GE 6 Frame 3 turbines, a representative from Baker Hughes, 7 which is a GE company, communicated to us that there is 8 no NOx abatement system, including no water injection 9 system, available for these units. 10 I provided this letter as Attachment T to my 11 rebuttal testimony. 12 We also support the changes for new turbines 13 in the 1,000 to 4,000 brake horsepower size range, and 14 we flag that these revisions are also critically 15 important. I am not aware of any new turbine in this 16 size range available on the market that meets 25 ppm NOx 17 without added controls. 18 This slide shows a list of all the different 19 manufacturers we investigated to determine whether a 20 unit of this size could meet the threshold. The answer 21 was no to all of them. This means that because SCR is 22 the only option for turbines of this size, the original 23 proposed 25 ppm NOx standard would force operators into 24 installing costly SCR controls even on a brand new unit. 25 Another important change that the Department	1818 1 methodology. We have run into this issue several times 2 so we appreciate that this change has been made, and we 3 ask the Board to adopt it. 4 Q. Thank you very much, Mr. Trent. 5 Could you now please summarize for the Board 6 your testimony regarding Kinder Morgan's clarifications 7 to the Department's direct testimony? 8 A. Yes. I'd be happy to. 9 I want to briefly address the NMED's cost 10 estimates, their testimony regarding the availability of 11 engine upgrades on certain -- and their testimony 12 regarding the availability of engine upgrades on certain 13 older engine units. 14 The Department provided a number of cost 15 estimates in its direct testimony. These estimates 16 centered on the costs to control engines and turbines to 17 the NOx and VOC standards as originally proposed. For 18 that reason, certain of the numbers are no longer 19 relevant now that the standards have been revised. 20 However, we think it is important to clarify a 21 few differences between our anticipated control costs 22 that we submitted in written testimony and the 23 Department's estimates. 24 First, for certain costs it appears that the 25 Department averaged costs across older and newer units.

1819 1 In our experience, it can be significantly more 2 expensive to retrofit an older unit than a newer unit. 3 Because of these differences, averaging newer units with 4 older can distort the real cost of retrofitting older 5 units. 6 Second, for the costs to control NOx from 7 existing turbines smaller than 15,900 brake horsepower 8 in size, it is our understanding that the Department did 9 not include SCR cost in their overall cost per ton 10 estimate of \$4,076, although the NMED provided SCR costs 11 on these units for comparison. I understand from the 12 Department's spreadsheet that to arrive at this \$4,076 13 cost per ton estimate NMED only included the costs of 14 installing water or steam injection. 15 This is -- this is presumably because they 16 believe that water and steam injection was a viable 17 control option and selected it for evaluation because it 18 is cheaper. As we discussed, this is not true in most 19 cases. Evaluating only water or steam injection likely 20 resulted in underestimating overall costs. 21 Where the Department did evaluate SCR for 22 turbines larger than 15,900 brake horsepower, those 23 estimates are lower than our anticipated costs. 24 Similarly, the Department's cost estimate to control 25 VOCs by installing oxidation catalysts are also lower	1821 1 upgrades on certain engines supports the need for 2 alternative compliance options, which I'll talk about in 3 greater detail shortly. 4 Even with the Tables 1, 2 and 3 as proposed, 5 certain technology and economic challenges remain to 6 achieve the standards for every unit. Recognizing this 7 fact, the Department has proposed two alternative 8 compliance options that are listed on this slide. 9 Kinder Morgan supports these proposals. 10 I'll move now to my surrebuttal testimony to 11 explain why it is critical for the Board to adopt the 12 proposals as currently drafted by the Department. 13 MS. GUTIERREZ: Madam Hearing Officer, I don't 14 know if you're also having a delay from Mr. Trent. 15 HEARING OFFICER ORTH: Yes. Yes. He should 16 slow down, and we should pause until he figures out the 17 connection there. It might help if he turns off his 18 video. 19 Q. (BY MS. GUTIERREZ) Mr. Trent -- 20 A. Okay. 21 Q. -- I think we just lost you on your talking 22 point to slide 25. It was cutting in and out a little 23 bit. So if you want to restate that point, and then 24 we'll shift to your -- 25 A. Okay.
1820 1 than our anticipated costs. 2 I'd also like to briefly address the 3 Department's testimony regarding the availability of 4 certain engine upgrades. They testified that there are 5 upgrades available for several engines to meet a NOx 6 limit of .5 grams per brake horsepower-hour. 7 While that is true, in the interest of 8 ensuring that the Board has as much relevant information 9 before it as possible, and to add on to what 10 Mr. Lisowski testified for NMOGA, I'd like to point out 11 that there are certain older engine units that no 12 service company has been able to upgrade to enable them 13 to meet a .5 gram per brake horsepower-hour NOx standard. 14 For example, the manufacturer Worthington 15 makes a 1,200 horsepower SLHC model engine that cannot 16 be upgraded to meet a .5 gram per brake horsepower-hour 17 NOx standard. 18 The Worthington Mainliner engine also cannot 19 be upgraded to meet .5 grams of brake horsepower-hour NOx 20 standard. We recently added emission controls to two of 21 these Mainliner units in Texas and Pennsylvania. The 22 best NOx emissions that we could achieve was about 23 5 grams per brake horsepower-hour, even with spending 24 several million dollars on controls. 25 This reality of limited availability of	1822 1 Q. -- surrebuttal. 2 A. Can you hear me now? 3 Q. Yes, we can. 4 A. Okay. All right. Let's see. 5 All right. Even with the Tables 1, 2 and 3 as 6 proposed, certain technological and economic challenges 7 remain to achieve the standards for every unit. 8 Recognizing this fact, the Department has proposed two 9 alternative compliance options that are listed on this 10 slide. Kinder Morgan supports these proposals. 11 I'll move now to my surrebuttal testimony to 12 explain why it is critical for the Board to adopt the 13 proposals as currently drafted by the Department. 14 Q. Thank you. 15 If folks will just bear with me as I 16 transition to the new slide deck. 17 Thank you. Okay. 18 Thank you for your summary of your direct and 19 rebuttal testimony, Mr. Trent. 20 Could you please summarize your surrebuttal 21 testimony regarding the alternative compliance options 22 related to engines and turbines that the Department has 23 proposed. 24 A. Yes. I'd be happy to. 25 Before I begin, I just want to say that the

1823 1 addition of the alternative compliance options to 2 account for technical and economical infeasibility is 3 absolutely critical to Section 113. 4 Q. Mr. Trent, I think we -- 5 A. (Unintelligible and/or inaudible) proposed 6 standards, the costs on certain of those units will be 7 very, very high. Because of this, having one or more -- 8 HEARING OFFICER ORTH: Mr. Trent needs to 9 speak more slowly. 10 MR. TRENT: Okay. Sorry. 11 Q. (BY MS. GUTIERREZ) Mr. Trent, I think -- I 12 think we lost you again at the beginning of the talking 13 point to slide 3 on this deck. It was cutting in and 14 out again. 15 A. Okay. 16 Can you hear me now? 17 Q. Yes, we can hear you now. 18 A. All right. 19 Before I begin, I just want to say that the 20 addition of the alternative compliance options to 21 account for technical or economic infeasibility is 22 absolutely critical to Section 113. 23 Based on our estimates to control our units to 24 the proposed standards, the costs on certain of those 25 units would be very, very high. Because of this, having	1825 1 important especially in circumstances where the costs to 2 undertake a certain retrofit would be enormously 3 expensive in comparison to the very small environmental 4 benefit that the retrofit would achieve. 5 I'd like to provide some additional background 6 about why the individual alternate emission standard 7 process is so important. 8 For this rulemaking, we evaluated certain case 9 study units to understand the costs that would be 10 required to comply with the originally proposed NOx 11 standards. The case studies are summarized on this 12 slide. Because the Department provided comment on our 13 Caprock estimate, I will focus on that station today. 14 I think it would be useful to walk through our 15 process in calculating the costs to control Caprock's 16 two turbines. To start, because there is no other 17 control option available for the two Caprock GE Frame 3 18 units, as demonstrated by the letter from Baker Hughes 19 that I included with my rebuttal testimony as Attachment 20 T, these units would require SCR. 21 For the Caprock units, we gathered a 22 significant amount of data to determine the costs 23 associated with installing the necessary SCR control. I 24 won't linger on this slide, but the process we undertook 25 to evaluate the cost per ton estimate was nothing short
1824 1 one or more option for alternative compliance is 2 essential to this rule. For this reason, and as the 3 Department has described, it is proposing two 4 alternative compliance options. 5 The first is an Alternative Compliance Plan, 6 or ACP, which involves grouping units and achieving 7 equivalent total reductions from some combination of 8 controls across that group. 9 The second is an alternative emissions 10 standard for individual engines or turbines, which can 11 be used in the event that controlling a certain unit is 12 technically impracticable or economically infeasible. 13 We support the Department's alternative 14 compliance proposals as proposed on September 16, and I 15 flagged that there are important changes in the 16 September draft that are foundational to ensuring that 17 Section 113 is workable for operators. 18 As Kinder Morgan's counsel presented in 19 opening statement, the Board should give due weight to 20 issues of technical practicality and economic 21 reasonableness in crafting these rules. 22 Adopting provisions that clearly articulate a 23 workable process for individual alternative emission 24 standards based on these considerations is contemplated 25 by the authority for this rulemaking. This is very	1826 1 of exhaustive. This slide outlines our process which 2 took over six weeks to complete. 3 I personally oversaw this data collection and 4 analysis, spending about 120 hours of my time over 5 approximately three months on this specific effort. 6 With the cost data that we collected, we 7 analyzed the cost effectiveness of purchasing, 8 installing SCR at Caprock. The cost effectiveness is 9 measured by dividing the total cost of the control by 10 the total emissions reduced. This provides a dollar 11 amount per ton of pollutant reduced. 12 To calculate this cost per ton amount, we used 13 for baseline emissions a representative recent emissions 14 test result multiplied by annual operating hours, which 15 are calculated based on three-year average. We used 16 28 -- 2018 through 2020. 17 For the amount of emissions reductions, we 18 counted from baseline emissions to the applicable 50 ppm 19 NOx limit. We did this because this measures the cost to 20 achieve the actual proposed standard. Our capital 21 investment estimate was based on a vendor quote. 22 To analyze -- to annualize the capital 23 investment, we used EPA's default interest rate and a 24 20-year life of control period, consistent with EPA's 25 control cost manual. We based annual O&M costs on EPA's

1827 1 cost control spreadsheet. 2 The results of this effort for Caprock are 3 summarized on the chart shown on this slide. 4 As our counsel presented in the opening 5 statement, we researched cost effectiveness thresholds 6 to understand the reasonableness of various costs. The 7 highest threshold that we identified for NOx was 7,000 8 per ton of NOx reduced, which is -- which was a 9 determination made by the New Mexico Environmental 10 Department during the recent regional haze process. 11 As you can see, the costs on a per ton basis 12 of putting SCR on the units at Caprock, underlined in 13 the far right column, are much, much higher than that 14 threshold, at roughly 80,000 and 55,000 per ton of NOx 15 reduced. 16 In Exhibit 1 to the Department's rebuttal 17 testimony, the Department discussed our cost estimates 18 for retrofitting the two turbines that drive our Caprock 19 compressor station with SCR. 20 In this discussion, the Department states that 21 there are two defects in the way that we calculated 22 costs for the Caprock units, which they believe resulted 23 in inflated cost estimates for the SCR installation. 24 The Department says that, one, we used unrepresentative 25 baseline data, in particular that our three-year	1829 1 I think it will glitch sometimes, and then it 2 speeds up your voice. So I think we lost you at "We 3 separately calculated." 4 MS. KATZ: Madam Hearing Officer, I'm sorry. 5 Can I just say that I believe that Kinder 6 Morgan is -- agrees with the Department's proposals 7 currently, and I feel like this is a lot of testimony 8 that's not really in the spirit of what the parties had 9 decided, which was not going into extensive depth on 10 things where we already had reached agreement. 11 So I'm just wondering -- I'm confused about 12 that, I guess, at this point. 13 HEARING OFFICER ORTH: Ms. Gutierrez, do we 14 misunderstand -- 15 MS. GUTIERREZ: Yes. Thank you, Madam -- 16 thank you, Madam Hearing Officer. 17 And I understand your concern, Ms. Katz. I 18 think from our perspective in particular on the 19 surrebuttal, there was information presented or response 20 from the Department that we feel is important to correct 21 on the record. If Kinder Morgan didn't have an 22 opportunity to present additional cost analysis in 23 response to some of the statements in rebuttal, that 24 sort of would just be left open-ended. 25 So we think it's important to present this
1828 1 lookback for operating hours was not representative; 2 and, two, we limited emissions reductions to those 3 needed to reach the applicable 50 ppm limit. 4 First, we'd like to thank the Department for 5 its engagement with our direct testimony. In response 6 to the concerns that the Department raised, we conducted 7 additional analysis on Caprock following the submittal 8 of rebuttal testimony that I want to present here. 9 For our first high-end analysis, we used a 10 10-year operating hour average, multiplied by our most 11 recent stack test result to calculate baseline 12 emissions. We then calculated the tonnage reduction 13 from the baseline to 50 ppm standard. We separately 14 calculated the tonnage and assumed 70 percent 15 efficiency from the SCR. 16 Q. Mr. -- Mr. Trent, I think -- I think we had 17 another glitch in -- 18 A. This control efficiency assumption -- 19 Q. Mr. Trent -- 20 A. Okay. 21 Q. -- can you hear me? 22 Yeah. I think it glitches, and then it -- 23 A. I hear you. 24 Can you hear me? 25 Q. I can hear you.	1830 1 additional analysis that we completed. 2 MS. KATZ: Okay. But there's no actual 3 changes that it's -- to the rule that this is 4 supporting. 5 MS. GUTIERREZ: That's correct. We continue 6 to support NMED's proposal on alternate compliance. I 7 think from our perspective we want to emphasize to the 8 Board how important this is, and this is part of the 9 reason for doing that. 10 I think, you know, unfortunately, without 11 having heard testimony from other parties on, you know, 12 where they stand, in particular the one that we're going 13 to hear on Friday, we do think it's important to set, 14 you know, baseline on why these additional provisions 15 are important. 16 MS. KATZ: Okay. Thank you. 17 HEARING OFFICER ORTH: Thank you, 18 Ms. Gutierrez. 19 Mr. Trent, thank you for speaking slowly, and 20 I will continue to rely on Ms. Gutierrez to interrupt 21 you in the event you are cutting out again. 22 Q. (BY MS. GUTIERREZ) Mr. Trent, are you still 23 with us? 24 A. Yes. 25 Can you hear me?

1831 1 Q. I can hear you now. Yes. 2 I think we stopped at "We separately 3 calculated the tonnage." 4 A. Okay. We separately calculated the tonnage 5 reduction using an assumed 70 percent efficiency from 6 the SCR. This control efficiency assumption is 7 consistent with the Department's methodology. We then 8 used each of these reductions to calculate the cost 9 effectiveness of installing SCR using the cost 10 information that we provided to the Board in written 11 testimony. 12 The chart on this slide shows the results. 13 The first row shows the original case that we 14 submitted to the Board, approximately 80,000 and 55,000 15 per ton. The second row shows the updated analysis 16 assuming reduction down to 50 ppm standard, 162,000 and 17 142,000 per ton. And the third row shows the updated 18 analysis assuming reduction based on a 70 percent 19 control efficiency, 153,000 a ton and 114,000 per ton 20 per NOx reduced. 21 As you can see, the updated costs are even 22 higher than our prior estimates. This is because these 23 units were used more on average in the last three years, 24 which was the original time frame we did the 25 calculations on, than in the last 10 years on average.	1833 1 and \$49,000 per ton of NOx reduced. 2 These costs illustrate the need for a clear 3 and workable case-by-case alternative emission standard 4 process. 5 In sum, we support the Department's proposals 6 for an Alternative Compliance Plan and an individual 7 alternative emission standard as reflected in the 8 September 16 draft, and we ask the Board to adopt those 9 proposals. 10 My testimony in this proceedings underscores 11 why these provisions are critically important to ensure 12 this set of rules at Section 113 is reasonable. 13 That concludes my summary of my direct, 14 rebuttal and surrebuttal testimony. 15 Thank you again for the opportunity. 16 I'm happy to answer any questions. 17 MS. GUTIERREZ: Thank you, Madam Hearing 18 Officer. 19 And the panel is available for questions. 20 HEARING OFFICER ORTH: Thank you very much. 21 Let me pause for a moment for other parties to 22 turn on their camera with any questions. 23 Not seeing questions from other parties, I'll 24 turn now to the Board. 25 If you're an attendee on this platform and
1832 1 It is important to note that these units are 2 not used at their full permit capacity. In its 3 alternative cost analysis, the Department's high-end 4 estimates assumed use of the turbines at their full 5 permitted capacity. This is simply not reflective of 6 our operation at Caprock and shouldn't be used to assess 7 costs. 8 We are trying to assess actual control costs 9 for this station, and using an average of actual 10 operating hours over some set period of time, be it 11 three years or 10 years, is a more principled way to do 12 that. 13 This slide shows our low-end cost estimate. 14 Here we also used a 10-year average to calculate the 15 operating hours. However, this time, instead of using 16 our most recent stack test, we multiplied our operating 17 hours by our permitted operating limits in pounds per 18 hour. This is the maximum that we are able to emit. So 19 it is representative of the upper limit of our potential 20 emissions. 21 We again calculated reductions down to 50 ppm 22 standard and separately calculated reductions based on a 23 70 percent control efficiency. As you can see, the 24 costs to install the technology at Caprock remain very, 25 very high, and ultimately not cost effective at 114,000	1834 1 would have a question, please reach out through the 2 chat. 3 EXAMINATION 4 BY THE BOARD: 5 HEARING OFFICER ORTH: Madam Chair, do you 6 have questions of the Kinder Morgan panel? 7 CHAIR SUINA: Thank you so much, Madam Hearing 8 Officer. 9 And it -- and like Ms. Katz mentioned, it 10 seems like Kinder Morgan and NMED are in alignment and 11 in agreement, right? And I think the technical 12 testimony also supports that; is that correct? 13 Yeah. Okay. 14 MS. GUTIERREZ: Yes. 15 CHAIR SUINA: Just real quick, just out of 16 curiosity, I know you brought up the Caprock example. 17 About how many other engines are in this 18 category in terms of what Kinder Morgan has would be 19 really difficult or cost -- cost prohibitive to upgrade? 20 MR. TRENT: So Caprock has two GE Frame 3 21 units, and in this category we have 10 of these units 22 across four different stations. 23 CHAIR SUINA: And those are all in New Mexico? 24 MR. TRENT: Yes. There are four different 25 compressor stations in the affected counties of this

1835 1 rule. 2 CHAIR SUINA: Okay. 3 And how many other stations do you have in New 4 Mexico? Other than these 10. Sorry. 5 MR. TRENT: (Unintelligible and/or inaudible). 6 Leslie, do you -- 7 MR. BRINDLEY: I think in my testimony we -- 8 we've identified 30 units that are potentially subject 9 to this. I don't -- I can't split out which ones may be 10 too costly at the moment. 11 CHAIR SUINA: Okay. Thank you for that. 12 And thank you again for your testimony. 13 Appreciate it. 14 HEARING OFFICER ORTH: Thank you. 15 Vice-Chair Trujillo Davis? 16 VICE-CHAIR TRUJILLO DAVIS: I don't have any 17 questions at this time, but again thank you for your 18 testimony. That was very enlightening. 19 HEARING OFFICER ORTH: Thank you. 20 Member Cates? 21 MEMBER CATES: No questions right now. Thank 22 you. 23 HEARING OFFICER ORTH: Thank you. 24 Member Bitzer? 25 MEMBER BITZER: No questions. Thank you.	1837 1 approximately correct. 2 MS. GUTIERREZ: No further questions from me, 3 Madam Hearing Officer. 4 HEARING OFFICER ORTH: Thank you, 5 Ms. Gutierrez. 6 Ms. Nolting, Mr. Brindley, Mr. Trent, thank 7 you, all. 8 Excuse you for the moment. 9 If I read the spreadsheet correctly, we would 10 go from here to the Commercial Disposal Group. 11 Is that true? 12 MS. SHPALL: This is Casey Shpall. 13 I believe that's correct. 14 HEARING OFFICER ORTH: All right, Ms. Shpall. 15 And your witness is witness Campsie? 16 I believe I have already panelized your 17 witness. Let me see. Is that true? Yes. Ashley 18 Campsie. 19 Ms. Campsie, let's do a sound check real 20 quick. 21 MS. CAMPSIE: Can you hear me all right? 22 HEARING OFFICER ORTH: Yeah. You're a little 23 soft, but we can hear you. 24 If you would spell your name, please. 25 MS. CAMPSIE: A-S-H-L-E-Y C-A-M-P-S-I-E.
1836 1 HEARING OFFICER ORTH: Thank you. 2 Member Garcia. 3 MEMBER GARCIA: No questions. Thank you. 4 HEARING OFFICER ORTH: And Member Honker. 5 MEMBER HONKER: No questions. Thank you. 6 HEARING OFFICER ORTH: All right. Thank you. 7 Ms. Gutierrez, is there any follow-up? 8 MS. GUTIERREZ: I just have one follow-up 9 question for clarification. 10 REDIRECT EXAMINATION 11 BY MS. GUTIERREZ: 12 MS. GUTIERREZ: I think the question from 13 Chair Suina, if I understood it correctly, was how many 14 compressor stations in the State of New Mexico does 15 Kinder Morgan operate. 16 And I don't think we have presented that data 17 here, but we would be happy to follow up with that 18 information, and we can get that for the Board. 19 MS. NOLTING: I think we have -- I think we 20 have 13 stations that are going to be subject to the 21 rule. We have stations in New Mexico that are not in 22 the subject counties, and I think our total in New 23 Mexico is 23. 24 But I -- yeah. I would like the opportunity 25 to follow up and make sure that's correct. That's	1838 1 HEARING OFFICER ORTH: Thank you. 2 And raise your right hand. 3 Do you swear or affirm to tell the truth? 4 MS. CAMPSIE: I do. 5 HEARING OFFICER ORTH: Thank you very much. 6 ASHLEY CAMPSIE 7 (Relating to Topic Order 24) 8 having been first duly sworn or affirmed, was 9 examined and testified as follows: 10 DIRECT EXAMINATION 11 BY MS. SHPALL: 12 HEARING OFFICER ORTH: And, Ms. Shpall, if 13 Ms. Campsie starts cutting in and out, I'm going to 14 recommend the camera trick. So thank you. 15 MS. SHPALL: Sounds good. 16 Are you ready? 17 MS. CAMPSIE: Yep. 18 Q. (BY MS. SHPALL) Ms. Campsie, did you offer 19 written and rebuttal testimony in this matter? 20 A. Yes. 21 MS. SHPALL: And Ms. Campsie's written direct 22 testimony is Appendix B to Commercial Disposal Group's 23 notice of intent to file direct testimony, and her CV is 24 attached to her testimony, and her rebuttal testimony is 25 Appendix B to Commercial Disposal Group's notice of

1839 1 intent to file rebuttal testimony. 2 Are there any objections to those exhibits? 3 HEARING OFFICER ORTH: Let me pause for a 4 moment in the event that there are objections. 5 I don't hear any. 6 The exhibits are admitted. 7 MS. SHPALL: Thank you. 8 Q. Ms. Campsie, please state your name and 9 employer and your position for the Board. 10 A. My name is Ashley Campsie. I'm president of 11 Evergreen Environmental Engineering. 12 Q. And what are your duties at Evergreen? 13 A. I own and operate all aspects of this firm, 14 specializing in air quality support. 15 Q. And could you please summarize your expertise 16 as it relates to your testimony in these proceedings? 17 A. Yes. I have over 25 years of experience in 18 public and private environmental sectors, a majority of 19 which has been focused on developing a specialty in air 20 quality permitting and compliance for the oil and gas 21 industry. 22 My past experience includes working as a 23 permit writer for the Colorado Air Pollution Control 24 Division, an environmental engineer for a large 25 midstream oil and gas company, a senior project	1841 1 proposed rule and support NMED's current modifications 2 with the exception of annual testing requirements. 3 To be consistent with NSPS Quad J, we propose 4 to change the language for testing in Sections 113 -- 5 Section 113C.(4)(h) from once per calendar year to once 6 every 8,760 hours of operation or three years, whichever 7 comes first. When multiple rules apply to a source, it 8 can be unnecessarily confusing to follow. 9 If an engine is not running, it is not 10 emitting emissions. 8,760 hours is equivalent to a year 11 of operation and arguably could be more frequent than 12 once per calendar year if the testing is not conducted 13 at the same time each year. Therefore, those engines 14 that operate consistently would effectively -- 15 effectively be tested annually. 16 The three years ensures engines are still 17 tested even if they don't run often. In practical 18 terms, compliance is being demonstrated without the 19 burden of tracking two different testing requirements 20 under two different rules. 21 This proposed change would also eliminate the 22 need to start up an engine just to test for those 23 engines that don't operate regularly. Starting up an 24 engine just for testing would create additional 25 emissions not otherwise emitted if the engine is not
1840 1 engineer/manager for CH2M Hill, and served for six years 2 as a commissioner on the Colorado Air Quality Control 3 Commission. 4 I am a Colorado licensed professional engineer 5 and have a bachelor of science degree in chemical 6 engineering with an environmental emphasis. 7 Q. Thank you. 8 And could you give us a brief overview 9 (unintelligible and/or inaudible) matter of your direct 10 and rebuttal testimony that you filed, the topics that 11 you addressed? 12 A. Yes. I submitted direct testimony regarding 13 Section 113, on engines and turbines, and Section 126, 14 on produced water management units. I submitted 15 rebuttal testimony in response to Section 113 and 16 several definitions relating to Section 126. 17 Q. And do you have any changes to that testimony? 18 A. No. 19 Q. And do you adopt that testimony here today? 20 A. Yes, I do. 21 Q. So the Department proposes to revise 22 Section 113 to require that engines be tested annually. 23 Please explain your position on engine testing 24 frequency -- frequency as currently proposed by NMED. 25 A. We appreciate NMED's modification to the	1842 1 operating. 2 For these reasons, we recommending changing 3 Section 113C.(4)(h) to testing once every 8,760 hours of 4 operation or every three years, whichever comes first. 5 Q. Do you have any additional comments, 6 Ms. Campsie? 7 A. Not at this time. 8 MS. SHPALL: Thank you. 9 Ms. Campsie is available for 10 cross-examination. 11 HEARING OFFICER ORTH: Thank you very much, 12 Ms. Shpall and Ms. Campsie. 13 I'll pause a moment in the event other parties 14 would like to turn on their cameras, question 15 Ms. Campsie. 16 Seeing no one, I'll turn to the Board for 17 their questions. 18 If you're an attendee on this platform and 19 have a question, please reach out through the chat. 20 Madam Chair, do you have questions? 21 CHAIR SUINA: Madam Hearing Officer, I don't 22 have questions at this time. 23 HEARING OFFICER ORTH: Thank you. 24 Vice-Chair Trujillo Davis. 25 VICE-CHAIR TRUJILLO DAVIS: I don't have

1843 1 questions either. 2 But thank you for taking the time to speak 3 with us today. 4 HEARING OFFICER ORTH: Thank you. 5 Member Cates. 6 MEMBER CATES: No questions. 7 Thanks for the testimony. 8 HEARING OFFICER ORTH: Member Bitzer. 9 MEMBER BITZER: No questions. Thank you. 10 HEARING OFFICER ORTH: Member Garcia. 11 MEMBER GARCIA: No questions. Thank you. 12 HEARING OFFICER ORTH: And Member Honker. 13 MEMBER HONKER: No questions. Thank you. 14 HEARING OFFICER ORTH: All right. Thank you 15 very much, Ms. Shpall and Ms. Campsie. 16 MS. SHPALL: Thank you. 17 HEARING OFFICER ORTH: It is almost quarter to 18 3:00. We do need a break. Let's break until 3:00. 19 And when we return, Ms. Katz, do I understand 20 that we'll return to the Department? 21 MS. KATZ: Yes, Madam Hearing Officer, very 22 briefly. 23 HEARING OFFICER ORTH: All right. Thank you 24 very much. 25 (Proceedings in recess from 2:42 p.m. to 3:00	1845 1 ELIZABETH BISBEY-KUEHN and BRIAN PALMER. 2 (Relating to Topic Order 25) 3 having been first duly sworn or affirmed, were 4 examined and testified as follows: 5 DIRECT EXAMINATION 6 BY MS. KATZ: 7 MS. KATZ: All right. So this is -- for the 8 Board, this is -- we're on Section 20.2.50.114, which is 9 compressor seals. This testimony appears at NMED 10 Exhibit 32, starting on page 56, and NMED Rebuttal 11 Exhibit 1, starting on page 48. All right. 12 And, Ms. Kuehn, do you have the PowerPoint? 13 All right. 14 And I guess I'll just briefly -- both 15 Ms. Kuehn and Mr. Palmer have already adopted their 16 testimony. 17 And do either -- Ms. Kuehn, do you have any 18 changes to this testimony? 19 MS. BISBEY-KUEHN: No. 20 HEARING OFFICER ORTH: And, Mr. Palmer, do you 21 have any changes? 22 MR. PALMER: I do not. 23 MS. KATZ: Okay. Thank you. 24 We can move forward. 25 Ms. Kuehn, can you please give a summary of
1844 1 p.m.) 2 HEARING OFFICER ORTH: Let's come back from 3 the break, please. 4 Ms. Katz. 5 MS. KATZ: Madam Hearing Officer, we are 6 actually not going to have any follow-up on that last 7 section. So I believe we would be ready to move 8 forward. 9 HEARING OFFICER ORTH: Fantastic. 10 MS. KATZ: Okay. So, then, this would be 11 moving to Topic 25 on compressor seals. 12 So the Department calls Ms. Kuehn and 13 Mr. Palmer. 14 HEARING OFFICER ORTH: All right. 15 And it's usually Ms. Kuehn who drives your 16 slides. 17 MS. KATZ: Yes. 18 HEARING OFFICER ORTH: Okay. 19 MS. KATZ: She will be in the driver seat once 20 again. 21 Let me see if I can check in with her. 22 There you are. 23 MS. BISBEY-KUEHN: I apologize. I had my 24 volume turned off. 25 MS. KATZ: Oh, good. Okay.	1846 1 compressors and compressor seals? 2 MS. BISBEY-KUEHN: Yes. 3 Good afternoon, everyone. 4 Compressors are used throughout the oil and 5 natural gas industry to compress gas for processing and 6 movement through pipelines. Compressors are mechanical 7 devices that increase the pressure of natural gas and 8 allow the natural gas to be transported from -- in 9 pipelines from the production site through processing 10 and supply chains and to the -- ultimately to the 11 consumer. 12 Venting of emissions from compressors occurs 13 from the seals, or at seal compressors, or alternatively 14 from the packing surrounding the mechanical compression 15 components, in reciprocating compressors, of the 16 compressor. And these emissions typically increase over 17 time as the compressor components begin to wear. 18 MS. KATZ: And can you discuss the rule's 19 emission standards for compressors? 20 MS. BISBEY-KUEHN: Yes. We are establishing 21 emission standards for both existing centrifugal 22 compressors, as well as new centrifugal compressors. 23 Existing compressors must control their VOC emissions 24 from the wet seal fluid degassing system by at least 25 95 percent within two years of the effective date of

1847 1 this part, while new centrifugal compressors must 2 control their VOC emissions by at least 95 percent upon 3 startup of that unit. 4 And emissions must be captured and routed 5 through a closed vent system to a control device, a 6 recovery system, a fuel cell or a process stream. 7 And for existing reciprocating compressors, 8 the requirement is to replace the rod packing every 9 26,000 hours of operation or 36 months, whichever is 10 later, or collect the VOC emissions from the rod packing 11 and route those emissions to a control device. 12 New reciprocating compressors must comply with 13 the same requirements upon startup. 14 MS. KATZ: Thank you. 15 Mr. Palmer, can you discuss the basis for the 16 rule requirements for compressors? 17 You're muted, Mr. Palmer. 18 MR. PALMER: Sorry. 19 The compressor seal requirements are the 20 same -- on centrifugal compressors are the same as those 21 in the New Source Performance Standards for oil and gas 22 production operation subpart Quad 0a, and it requires 23 that owners and operators reduce the methane and VOC 24 emissions from centrifugal compressor wet seal fluid 25 degassing systems by 95 percent.	1849 1 And this -- and also the -- the 2016 CTG. We 2 estimated the cost of that would be \$1,085 per ton of 3 VOC. 4 For centrifugal compressors, we estimated an 5 overall emission reduction of 2,087 tons per year of VOC 6 from 116 centrifugal compressors by controlling them to 7 95 percent. And that cost effectiveness would be 8 approximately \$320 per year. Hmm. That may be \$320 per 9 ton. So I will check that and have it corrected. 10 MS. KATZ: Okay. Thank you. 11 Ms. Kuehn, can you discuss the provisions on 12 applicability and emission standards under this section 13 and some of the revisions that the Department made? 14 MS. BISBEY-KUEHN: Yes. Similar to the 15 Section 113, we're -- before you is a similar structure 16 of a rule where we have applicability covered in 17 Subsection A. 18 The first paragraph addresses centrifugal 19 compressors using wet seals and located at specific 20 facilities are subject to the requirements and exempts 21 centrifugal compressors that are located at well sites 22 and transmission compressor stations per the 23 requirements of this section. 24 Paragraph A.(2) is the applicability section 25 that covers the reciprocating compressors that are
1848 1 And the federal rule also requires the wet 2 seal degassing system to be equipped with a cover and 3 closed vent system that routes the gas to a control 4 system or process. 5 For reciprocating compressors, again the 6 requirements are based on the new -- NSPS Quad 0a, and 7 the NSPS requires the same -- it requires owners and 8 operators to replace the rod packing every 26,000 hours 9 or prior to 36 months from the date of the most recent 10 rod packing replacement. 11 And then it requires that owners and operators 12 collect emissions from rod packing and route to a 13 process through a closed vent system. That's if they're 14 not using the -- the rod packing replacement schedule. 15 MS. KATZ: Thank you. 16 Mr. -- Mr. Palmer, can you discuss the 17 emissions -- estimated emissions reductions and costs 18 for the rule? 19 MR. PALMER: Sure. For reciprocating 20 compressors, we estimated an emission reduction of 5,325 21 ton per year of VOC from 2,612 reciprocating compressors 22 by increasing the rod packing replacement frequency from 23 a baseline of four years to every three years. This was 24 the same as -- the emission reduction methodologies is 25 the same as used in the NSPS.	1850 1 located at those -- those listed facilities with a 2 similar exemption for reciprocating compressors at well 3 sites and transmission compressor stations. 4 We received several comments from 5 stakeholders, including deleting this section in its 6 entirety, exempting transmission compressor stations 7 from requirement to -- from requirements of this 8 section. The Department does not agree to delete this 9 section in its entirety based on the significant VOC 10 emission reductions that were just highlighted. 11 The Department did review updated emissions 12 estimates that were provided and did agree to exclude 13 transmission compressor stations from this section based 14 on the very, very limited number of VOC emissions that 15 are -- occur as a result from -- from those facilities 16 within the process sector or the -- the industrial 17 sector. 18 Paragraph B.(1) establishes the requirements 19 for existing centrifugal compressors. We received a 20 comment to qualify those units to cover those 21 compressors with wet seals. The Department agreed with 22 that as it did align with the federal New Source 23 Performance Standard that covers these types of 24 compressors, and so that edit was made. 25 Paragraph B.(2) then covers the requirements

1851 1 for existing reciprocating compressors. We received a 2 request to strike "under negative pressure" due to the 3 technical issues around having a negative pressure 4 system around that rod packing system. 5 And the Department did agree to strike that 6 and keep that language neutral so that the emissions can 7 be collected and routed, but there does not have to be a 8 negative pressure system installed in order to route 9 those emissions to the control device recovery system, 10 fuel cell or process. 11 Similarly in Paragraph (3), which covers new 12 centrifugal compressors, we made a similar edit there 13 with the addition of wet seals to clarify that those are 14 the types of compressors the Department intended to 15 include. We also revised the emission reduction 16 requirement from 98 to 95 percent. That was the 17 Department's intent, was to require 95 percent control 18 from -- from those units. 19 Paragraph B.(4) again covers new reciprocating 20 compressors, and the Department made a similar 21 adjustment there, striking the language "under negative 22 pressure" for the reasons previously stated. And then 23 we did strike the requirement to install an emission -- 24 or equipment monitoring tag on these units, as well. 25 MS. KATZ: And can you just discuss the	1853 1 These were all minor edits to the language 2 that provide clarification. The Department agreed with 3 these -- these minor edits. They did not change the 4 intent of any specific requirement, and so we agreed in 5 large with -- in large part with all the requests to 6 revise this language. 7 And I can ask -- answer any specific questions 8 that folks have, but these are -- these are -- these 9 revisions were -- were clarifying in nature. 10 And this is the last part of the recordkeeping 11 requirements. So it's a carryover from Subparagraph 12 (2). And then Paragraph (3) and (4) we did not receive 13 significant comments on this section of the rule. We 14 agreed with the clarifying edits here. 15 There were no changes made to the reporting 16 requirements. 17 And I will just add that the parties are 18 largely in agreement about this -- this section as is, 19 and so we don't anticipate any outstanding issues 20 related to this section. 21 That's the end of the presentation. 22 MS. KATZ: Thank you. 23 And let me just go back to Mr. Palmer briefly. 24 First, on the -- the slide, did you determine 25 the correction on that \$320 should have been \$320 per
1852 1 monitoring requirements briefly and any changes made? 2 MS. BISBEY-KUEHN: Yes. And similar to the 3 reasons provided previously, we have struck the -- well, 4 let me start by saying the monitoring requirements again 5 are the monitoring of the equipment and the control 6 devices used in order to demonstrate compliance with the 7 emission standards that are established in Subsection B. 8 And so that is the overall framework of the rule. 9 And so what we have before you are all of the 10 monitoring requirements to ensure that there's a method 11 to demonstrate compliance with those emission standards. 12 In Paragraph C.(3), the only requested edit 13 was to again strike the language "under negative 14 pressure" and replace that language with "as designed," 15 which the Department agreed with. 16 MS. KATZ: And can you review the 17 recordkeeping provisions and the revisions made there. 18 MS. BISBEY-KUEHN: Yes. And similar to 19 Subsection C, Subsection D is the recording of 20 information in order to determine compliance with the 21 emission standards. And so before you are all of the 22 recordkeeping requirements for both centrifugal 23 compressors, which are covered in D.(1), and the 24 recordkeeping requirements for reciprocating 25 compressors, which are covered in D.(2).	1854 1 ton, not per year? 2 MR. PALMER: That's correct. Yes. 3 MS. KATZ: Okay. 4 And then, Mr. Palmer, were any comments 5 submitted on the tons per year of emissions from 6 compressor seals that need to be clarified? 7 MR. PALMER: Yes. We did receive some 8 testimony from other parties indicating that according 9 to the VOC emission inventory, emissions from compressor 10 seals are very, very small, six tons per year total per 11 year. That is somewhat misleading, because the 12 compressor seal emissions were not a specific item in 13 the inventory in most cases. So in most cases the 14 compressor seal emissions were probably included as 15 fugitive emissions. 16 Our spreadsheets for compressor seals, based 17 on those we indicate -- we estimated that the baseline 18 emissions would be about 11,000 tons per year and not 19 six tons per year. So they're substantial. 20 MS. KATZ: Thank you, Mr. Palmer. 21 And that is all that I have for our witnesses 22 on this topic. 23 HEARING OFFICER ORTH: All right. Thank you. 24 Do I understand, Ms. Katz, that the proposal 25 from counsel was on this topic and the next half dozen

1855 1 or so that we would hear from the parties and then have 2 Board questioning? 3 MS. KATZ: Correct. But we are still doing 4 cross after each panel of parties. 5 HEARING OFFICER ORTH: All right. 6 So let me invite any party to turn on their 7 camera if they have questions of the Department panel. 8 Oh, I see Mr. Hiser. 9 MR. HISER: Thank you, Madam Hearing Officer. 10 CROSS-EXAMINATION 11 BY MR. HISER: 12 MR. HISER: I have a question. It's probably 13 for Mr. Palmer. 14 And that is the 5,325 tons per year of 15 savings, I think, that are talked about now, where did 16 that come from? I was looking through your direct and 17 rebuttal and didn't see that. Is that a new piece of 18 information that the Department was able to develop, or 19 where did it come from? 20 MR. PALMER: No. That is from the 21 spreadsheets we prepared in July on -- 22 (Simultaneous discussion.) 23 MR. HISER: -- 6.2 or something, six tons, 24 which is why initially that we didn't think it was 25 worthwhile. So I'm just curious as to the revision.	1857 1 MR. LISOWSKI: And I am back online now. 2 Let me take a moment to share my screen again. 3 MR. HISER: And she's saying wait. 4 MR. LISOWSKI: No problem. Give me a second 5 anyways. 6 MR. HISER: I think she says you now can pick 7 it up. 8 MR. LISOWSKI: Okay. 9 JUSTIN LISOWSKI 10 (Relating to Topic Order 25) 11 having been first duly sworn or affirmed, was 12 examined and testified as follows: 13 DIRECT EXAMINATION 14 BY MR. HISER: 15 Q. All right. Mr. Lisowski, can you say your 16 name for the court reporter? 17 A. Yes. Justin Lisowski, L- -- 18 Q. And I -- oh, you can spell it if you'd like. 19 A. L-I-S-O-W-S-K-I. 20 Q. Thank you. 21 And just a reminder that you're under oath 22 from earlier today. 23 Have you been asked to present testimony on 24 behalf of NMOGA on compressor seals? 25 A. Yes.
1856 1 MR. PALMER: Let me give you the exhibit 2 numbers. 3 Exhibit 66 is for compressor seals associated 4 with turbines, which we assumed were the centrifugal 5 compressors. 6 And Exhibit 64 are for reciprocating 7 compressors. 8 MR. HISER: Thank you. That helps us. We 9 appreciate it. Thank you much. 10 That's my last question. 11 MR. PALMER: You're welcome. 12 HEARING OFFICER ORTH: Thank you. 13 Any other parties with a question, please turn 14 on your camera. 15 Not seeing anyone. 16 As I understand it, the other parties with 17 witnesses on Section 114 include NMOGA, Kinder Morgan 18 and IPANM. 19 Shall we start with NMOGA? 20 MR. HISER: Madam Hearing Officer, yes. 21 Justin Lisowski will be our expert. 22 I'm not sure if I got cut off at the beginning 23 of that. 24 HEARING OFFICER ORTH: No. I heard you. 25 Thank you.	1858 1 Q. And a general summary is that NMOGA raised 2 basically a question about the overall emissions 3 reduction and a safety consideration, did it not? 4 A. That is correct. 5 Q. And do you want to touch briefly on those two 6 things? 7 A. Yes. That would be great. I've got a couple 8 slides to support some of that. 9 But the -- the primary -- can everyone see my 10 screen? 11 For some reason it's not advancing. 12 Q. I see a giant gray square. 13 A. Okay. Let's try it again. 14 Sometimes my dual monitors create havoc. 15 Apologies. 16 Q. Well, if you -- okay. We can see it there, if 17 you can't -- 18 (Simultaneous discussion.) 19 A. -- fighting with it. 20 But I'll -- 21 (Simultaneous discussion.) 22 A. Okay. 23 Q. Yeah. Why don't you just speak to it. I 24 don't know that we really need the slides for this. 25 A. You bet.

1859 1 So the recommendation was -- at a minimum was 2 to strike the negative pressure requirements, and 3 Ms. Kuehn and Mr. Palmer spoke upon that, as well, and 4 that being a safety concern, providing an opportunity 5 for oxygen entrainment in the -- in your system by 6 having a negative pressure system. So we appreciate 7 that recognition to -- to open up the method in which we 8 collect the gas not being overly prescriptive. 9 Q. What's the concern with oxygen entrainment in 10 control gas streams? Just for the Board. They may not 11 know what that means. 12 A. Absolutely. You know, the -- the primary 13 concern is you're introducing oxygen into a flammable 14 product, as well as you do have oxygen specs that you're 15 trying to maintain within your midstream provider and 16 gathering service. And so you've got those two items 17 that you're trying to balance out. But it's 18 predominantly a -- introducing this oxygen into an 19 explosive product. 20 Q. So basically what we're trying to do is 21 prevent it from exploding or catching fire; is that 22 correct? 23 A. That's right. 24 Q. The other question I think that we had raised 25 initially was that we -- that the initial estimate	1861 1 the buildings, as well as causes a lot of nuisance 2 alarming in our gas detectors. And so maintaining those 3 seals was always part of our common practice, just in 4 terms of keeping at a minimum the gas detectors from 5 going off errantly. 6 Q. So basically, in your view, we're not going to 7 see a big amount of gain here because industry already 8 does these practices anyhow. 9 A. That would be my feeling. Yes. 10 Q. Okay. 11 Other than that, we don't have any substantial 12 objections to the rule as revised by the Department, 13 correct? 14 A. That's correct. 15 MR. HISER: I don't believe that we have any 16 other questions for this witness, Madam Hearing Officer. 17 HEARING OFFICER ORTH: Thank you. 18 Will we hear next from IPANM or Kinder Morgan? 19 MS. KATZ: I believe that there would be first 20 cross if anybody wanted to cross Mr. Lisowski. 21 HEARING OFFICER ORTH: I am sorry, Ms. Katz. 22 You're right. 23 MR. ROSE: Madam Hearing Officer, just to give 24 you an indication, we do not expect to present 25 Mr. Brown. His testimony was on Section 112, and that's
1860 1 seemed to be quite low. 2 And you've heard now from Mr. Palmer that they 3 believe it's about 5,000 tons. 4 Do you have any initial thoughts on that 5 revised emission estimate? 6 A. Yeah. Obviously, that changes the 7 significant -- the permit of significance. It was based 8 upon an ERG memorandum that lined out -- and that was 9 one of the tables I wanted to share on the screen, but 10 that's okay -- that lined out what the compressor seal 11 estimated VOC emission reduction would be, and the total 12 gross VOC tons per year being 13. 13 And so that is a significant departure from 14 5,000. So that was what the testimony of striking the 15 entire rule from -- from the proposal. 16 The other reason being that it's not common 17 practice to collect gas from reciprocating compressor 18 seals, and so there's not an industry standard for the 19 implementation. And because of this, the operators 20 would just elect to maintain their Quad 0a requirement 21 of replacing the packing every 26,000 hours or 36 22 months, whichever one is first. 23 And, you know, in my former midstream -- or 24 upstream company, our compressors were located in 25 buildings, and so venting gas creates high fire risk in	1862 1 referenced throughout. So he was only listed because 2 112 is listed in that subsection. So Mr. Brown's 3 testimony is complete, and he will not be testifying on 4 the individual subsections here. 5 HEARING OFFICER ORTH: Thank you very much. 6 All right. So if you would, please, turn on 7 your camera if you're a party and have a question of 8 Mr. Lisowski. 9 No? 10 I'll turn to the Board. While I'm doing -- 11 oh, no. Wait. I'm sorry. We're holding off on the 12 Board. 13 So thank you, Mr. Lisowski and Mr. Hiser. 14 Let's go to Kinder Morgan. 15 Ms. Gutierrez? 16 MR. BRINDLEY: She's on mute. 17 MS. GUTIERREZ: Sorry about that. I'm on 18 mute. Too many devices here. 19 Thank you. We have Mr. Vincent Brindley. 20 Let me just get my -- if I could just briefly 21 share the screen. 22 HEARING OFFICER ORTH: Okay. Hold on. 23 MS. GUTIERREZ: And as we're doing that, I 24 just wanted to follow up on Chair Suina's question. 25 We did have a look into the data points, and,

1863 1 Chair Suina, Kinder Morgan operates 22 transmission 2 compressor stations in New Mexico, and 13 of those would 3 be subject to the proposed rule. So it's a -- it's a 4 particularly important provision which is why we spent 5 some time discussing that with you today. Okay. 6 Okay. Do we see compressor seals? 7 MR. BRINDLEY: We do now. 8 MS. GUTIERREZ: Thank you. 9 VINCENT BRINDLEY 10 (Relating to Topic Order 25) 11 having been first duly sworn or affirmed, was 12 examined and testified as follows: 13 DIRECT EXAMINATION 14 BY MS. GUTIERREZ: 15 Q. Mr. Brindley, as your qualifications have 16 already been presented to the Board, can you please 17 introduce yourself for the record? 18 A. Sure. My name is Vincent Brindley, and I am a 19 technical supervisor for Kinder Morgan. 20 Q. Did you submit written direct technical 21 testimony at Exhibit 9 and written rebuttal technical 22 testimony at Exhibit 14 regarding compressor seals? 23 A. Yes, I did. 24 Q. Do you have any changes to that testimony? 25 And if not, do you adopt your written testimony here	1865 1 MS. GUTIERREZ: Thank you, Mr. Brindley. And 2 I think just open to other parties at this time since 3 we're doing -- 4 MR. BRINDLEY: Oh. 5 MS. GUTIERREZ: -- Board questions in full. 6 But thank you. 7 MR. BRINDLEY: Correct. Sorry. 8 HEARING OFFICER ORTH: All right. Thank you. 9 If you're a party with a question, please turn 10 on your camera. 11 All right. I don't see anyone. 12 I believe, though, that with Mr. Brindley we 13 have everyone who would be questioned collectively on 14 Section 114 completed. 15 So, Board Members, this is the first time 16 we're doing this, but we're going to do it six or seven 17 more times. We've heard the Department's testimony, 18 we've heard testimony from Kinder Morgan and from NMOGA. 19 All of those witnesses who testified on Section 114 are 20 now available for your questioning. 21 22 23 24 25
1864 1 today? 2 A. I have no changes, and yes, I adopt my written 3 testimony in full. 4 Q. Thank you. 5 And can you please briefly describe your 6 testimony regarding the proposed VOC standards for 7 compressor seals? 8 A. Yes, of course. 9 Good afternoon, Madam Chair, Board Members and 10 Madam Hearing Officer. 11 Originally I had planned to discuss the topics 12 as shown. However, in the effort to streamline these 13 proceedings, I'll limit my testimony to expressing that 14 Kinder Morgan supports the Department's September 16th 15 draft language. The Department has removed transmission 16 compressor stations from the applicability of 17 Section 114. 18 We support this change because it reflects 19 that the VOC emissions from wet compressor seals used in 20 the transmission segment are very low, and relative to 21 those minimal emission reductions the cost to control or 22 replace these seals would be unreasonably high. 23 With that, I offer myself for any questions 24 from the Board or other parties on the information in my 25 testimony.	1866 1 ELIZABETH BISBEY-KUEHN, BRIAN PALMER, 2 JUSTIN LISOWSKI and VINCENT BRINDLEY 3 (Relating to Topic Order 25) 4 having been first duly sworn or affirmed, was 5 examined and testified as follows: 6 EXAMINATION 7 BY THE BOARD: 8 HEARING OFFICER ORTH: Madam Chair, start with 9 you. 10 MS. KATZ: And really quickly, Madam Hearing 11 Officer, I would just ask that Ms. Kuehn and Mr. Palmer 12 turn their cameras on for questioning. Thank you. 13 HEARING OFFICER ORTH: Sure. 14 Oh, and by the way, if you're on the platform 15 as an attendee and you have a question, please reach out 16 through the chat. 17 Madam Chair? 18 CHAIR SUINA: I think, if I'm correct, all the 19 parties seem to be in alignment with the proposed rules 20 from the September 16th; is that correct? 21 MS. KATZ: That's correct. 22 CHAIR SUINA: Okay. 23 Well, I don't have any other questions at this 24 time. Thank you. 25 HEARING OFFICER ORTH: Thank you.

1867 1 Vice-Chair Trujillo Davis? 2 VICE-CHAIR TRUJILLO DAVIS: I echo Member 3 Suina's question, and so I don't have any questions. 4 HEARING OFFICER ORTH: Thank you. 5 Member Cates? 6 MEMBER CATES: Same here, no additional. 7 HEARING OFFICER ORTH: Thank you. 8 Member Bitzer? 9 MEMBER BITZER: A couple of questions real 10 quick. 11 One, I did the math on -- on 36 months of 12 24-hour-a-day, 365-day-a-year running of a machine, and 13 it comes out to about the same number. 14 Is there some reason it was 36 months or 15 26,000 hours? 16 MR. PALMER: I can answer that. It -- 17 MEMBER BITZER: And not just -- not just every 18 26,000 hours? 19 Please. 20 MR. PALMER: It's for -- to take account for 21 those compressors that don't operate full-time. I think 22 you heard from Kinder Morgan that some of their 23 compressors operate quite less than full-time. So you 24 could go 26,000 hours and not have to change them in 25 three years. You could stretch it out to five or six	1869 1 options, and fuel cell was included as a placeholder if 2 it becomes available. 3 MEMBER BITZER: Interesting. 4 MR. PALMER: (Unintelligible and/or 5 inaudible.) 6 MEMBER BITZER: I tried -- before I got my 7 Honda Civic that runs on natural gas, I tried to get a 8 fuel cell-powered vehicle out of Honda. They run -- 9 they run something out of LA where they'll lease it to 10 you, but they wouldn't -- they wouldn't turn -- turn me 11 loose with one, I think because they don't -- the 12 membranes don't behave well at freezing and below 13 temperatures, the membrane that requires the electron to 14 go around. 15 But anyway, those are the only questions I 16 have. Thank you. 17 HEARING OFFICER ORTH: Thank you. 18 Member Garcia? 19 MEMBER GARCIA: No questions. Thank you. 20 HEARING OFFICER ORTH: And Member Honker. 21 MEMBER HONKER: I do have a couple for 22 Ms. Kuehn, I think. 23 You said the 95 percent control 24 requirements -- I believe you said were from the NSPS; 25 is that correct?
1868 1 years, I guess. 2 MEMBER BITZER: Okay. 3 And that -- and that's too long? If you're -- 4 like an aircraft engine, you basically -- you got a 5 certain number of hours on the engine before you got to 6 tear it down and rebuild it, but if the aircraft is run 7 once a week or if it's run every day, it's still those 8 air hours that matter. 9 I guess it's different for this -- this type 10 of equipment, then? 11 MR. PALMER: You know, it's whichever one -- 12 (Simultaneous discussion.) 13 MR. PALMER: It's whichever one is longer. 14 MEMBER BITZER: Okay. 15 The other question I had was what's the role 16 of a fuel cell in this process? 17 I mean, I understand a fuel cell could power a 18 Honda -- 19 MR. PALMER: Yeah. 20 MEMBER BITZER: -- Clarity or the Apollo 21 spacecraft and so forth, burning hydrogen, but what is 22 a -- what is a fuel cell's role in this -- in this 23 process? 24 MR. PALMER: That's a placeholder if that 25 technology becomes available. So there was a menu of	1870 1 MS. BISBEY-KUEHN: Yes, Member Honker. That's 2 correct. 3 MEMBER HONKER: How is that calculated? 4 95 percent of what? 5 MS. BISBEY-KUEHN: So the calculation to 6 determine control efficiency assumes 100 percent 7 emissions, and then you assume a certain capture 8 efficiency of those emissions and then a certain control 9 efficiency of the control device. 10 And so it's the combined capture and control 11 efficiency results in a 95 percent reduction of 12 emissions. And that is calculated by the efficiency of 13 that system to capture those emissions, and then the 14 efficiency of the system to control those emissions. 15 MEMBER HONKER: Okay. So it's basically 16 95 percent other than if it was just totally 17 uncontrolled and vented. 18 MS. BISBEY-KUEHN: That's correct. 19 MEMBER HONKER: Okay. All right. That's 20 helpful. Thank you. 21 No other questions. 22 HEARING OFFICER ORTH: All right. Thank you. 23 Let me ask if any of the questions prompted a 24 need for follow-up by any counsel. 25 No?

1871 1 All right. Thank you very much, all you 2 Section 114 witnesses. 3 Mr. Hiser, yes? 4 MR. HISER: I do have one issue before we 5 completely depart from Section 114, and that is that we 6 just referenced the documents that were suggested by 7 Mr. Palmer and Ms. Katz as being the source of the 5,325 8 ton estimate. We don't see any such information in 9 those. 10 But rather than -- I'm sure they are probably 11 correct, but rather than take the Board's time, maybe we 12 can just touch base with them offline. But if there is 13 some issue with that, I guess I'd like to be able to 14 come back to it. I think they're probably right, but we 15 just didn't see it in the -- in the exhibit numbers they 16 referenced. 17 HEARING OFFICER ORTH: Okay. I see Ms. Katz 18 and Mr. Palmer nodding. 19 MR. HISER: Okay. Thank you. 20 MS. KATZ: Yes. 21 MR. HISER: And I'll reach out after the 22 hearing to Lara to figure out how to do that. 23 Thank you. 24 HEARING OFFICER ORTH: Thank you. 25 Are we moving, then, to Section 115?	1873 1 control devices and closed vent systems that are used to 2 comply with the requirements of this part. 3 A control device and closed vent system is a 4 means to capture, convert, destroy or recover air 5 contaminants. The purpose is to reduce emissions of 6 VOCs and NOx. Control devices include open flares, 7 enclosed combustion devices, thermal oxidizers, vapor 8 recovery units, fuel cells, condensers, and catalytic 9 converters, as well as other technologies that may be 10 approved by the Department. 11 A closed vent system is a system that is 12 designed to capture and route VOC emissions from a 13 source to a process stream or to a control device with 14 no loss of VOC emissions to the atmosphere. 15 MS. KATZ: And can you provide the overview of 16 this section of the rule requirements? 17 MS. BISBEY-KUEHN: Yes. This section 18 establishes operational and performance requirements and 19 standards, monitoring and other requirements for both 20 control devices and closed vent systems, and requires 21 control devices to be installed, operated and maintained 22 in accordance with the manufacturer specifications. 23 It requires that these control devices be 24 effective, and that means that they must be sized 25 adequately to handle the expected range of the emission
1872 1 MS. KATZ: Yes. 2 ELIZABETH BISBEY-KUEHN and BRIAN PALMER 3 (Relating to Topic Order 26) 4 having been first duly sworn or affirmed, were 5 examined and testified as follows: 6 DIRECT EXAMINATION 7 BY MS. KATZ: 8 MS. KATZ: So this is Topic Number 26 in the 9 spreadsheet, and this is Section 20.2.50.115, and then 10 there are several associated definitions and proposals 11 associated with this section. 12 So I will have -- I call Ms. Kuehn and 13 Mr. Palmer for the Department. 14 And Ms. Kuehn will need sharing privileges. 15 All right. 16 Sorry. So we've -- Ms. Kuehn and Mr. Palmer 17 have both already adopted their testimony on this 18 section, and I don't believe there are any changes to 19 that testimony. So we will move right into the rule -- 20 to the discussion. 21 So, Ms. Kuehn, can you discuss the equipment 22 that -- and processes that are the subject of this 23 section? 24 MS. BISBEY-KUEHN: Yes. The -- this 25 subsection -- or this section rather, 115, covers	1874 1 stream to which it is controlling. This section also 2 requires monthly inspections of control devices and 3 closed vent systems to ensure that the units are 4 operating properly, to check for leaks and defects and 5 releases. 6 This section also requires an assessment of 7 the device to ensure that it's properly sized for that 8 stream and that emissions are properly routed to the 9 control device or process. And it also requires that an 10 assessment be conducted by a qualified professional 11 engineer or an in-house engineer and that that 12 assessment be certified to the adequacy of -- of the 13 design. 14 MS. KATZ: I'll just let you move on to the 15 various controls discussions. 16 MS. BISBEY-KUEHN: Okay. 17 So this section breaks out specific 18 requirements for several types of control devices. Open 19 to flares are one such device where there are very 20 specific requirements established. 21 This -- the section requires that flares be 22 properly sized and designed to ensure proper combustion. 23 And that combustion must be maintained when gas is sent 24 to the flare and for the duration that gas is sent to 25 the flare. It prohibits gas being sent to the flare

1875 1 that is in excess of the design capacity of the unit. 2 And it requires that all new and existing 3 flares be equipped with a system to ensure that the 4 flare is operated with a flame present at all times when 5 gas is being sent to the flare. It requires that those 6 units be inspected to ensure that a flame is present 7 upon initiating of a flaring event for certain types of 8 flares. 9 It requires that the flare be equipped with a 10 continuous pilot flame upon startup. And it requires 11 that for existing flares controlling a continuous gas 12 stream constructed before the date -- effective date of 13 the rule, that that unit be equipped with a continuous 14 pilot no later than one year after the effective date of 15 this part. 16 In addition, existing flares located at sites 17 with low production must be equipped with an 18 auto-ignitor, continuous pilot or alarm that alerts the 19 owner or operator of a flare malfunction, if that unit 20 is replaced or reconstructed after the effective date of 21 this part. 22 It requires that flares be operated with no 23 visible emissions. And it requires that flares be 24 repaired within three business days of alarm activation. 25 The next set of requirements refer to the	1877 1 hydrocarbon or VOC vapors are drawn out of a storage 2 vessel under low pressure and piped to a separator or 3 other scrubber to collect any condensed liquids which 4 are then recycled back to the storage vessel. 5 MS. KATZ: I'll turn over to Mr. Palmer to 6 discuss the basis for the requirements in the -- in this 7 section and the estimated emissions reductions and 8 costs. 9 So, Mr. Palmer? 10 MR. PALMER: So the basis for the requirements 11 in this section are -- come from these four documents, 12 the Pennsylvania General Permits GP-5 and GP-5A; 13 Colorado Regulation 7, that has a separate section for 14 control devices; the NSPS Subpart Quad 0a, which is the 15 2016 NSPS -- or 2015, I believe, NSPS for oil and gas 16 operations; and then also within the general provisions 17 of the NSPS program, Subpart A in the NSPS program. 18 So as far as emission reductions and cost 19 estimates specific to this section of the rule, we did 20 not estimate separate costs or emission reductions for 21 these control device requirements because those costs 22 and reductions are estimated separately for each 23 emission source using those controls and are estimated 24 for that particular section of the rule. 25 So there are no separate ones for this --
1876 1 enclosed combustion devices and thermal oxidizers. 2 These types of equipment and control devices are 3 enclosed ground level combustors or oxidizers. Many -- 4 there are many of the same requirements in this section 5 as there are for flares. There are very similar 6 monitoring, recordkeeping and reporting requirements for 7 this equipment. 8 And I'll go through those revisions when I get 9 to the red-line/strike-out version of the -- of the 10 regulation. 11 This section also contains very specific 12 requirements for vapor recovery units. These are 13 process equipment or control devices that route vapors 14 from a source back to a separator, a gas -- sales gas 15 line or to a process line for beneficial use, such as a 16 flare -- or such as fuel. 17 We will -- we'll speak to the distinction 18 between process VRUs and control VRUs later on. We 19 received comments about that -- that issue, and we 20 have -- I think we've clarified that the use of this VRU 21 as it's intended to be referred to in this rule. And so 22 we'll -- we can speak to that issue if we need to. 23 A vapor recovery unit is often referred to as 24 a compressor that is used to boost recovered vapors back 25 to the sales line. In a typical VRU application, the	1878 1 these general requirements. 2 MS. KATZ: Thank you, Mr. Palmer. 3 And turning back to Ms. Kuehn to discuss 4 the -- the definitions from Section 7 of this rule that 5 are associated with the control device section. 6 MS. BISBEY-KUEHN: Yes. So we have three 7 definitions that we want to discuss as part of this 8 larger discussion on Section 115. 9 The first definition is closed vent system, 10 which is defined as a system that is designed, operated 11 and maintained to route and -- the VOC emissions from a 12 source or a process to a process stream or control 13 device with no loss of VOC emissions to the atmosphere. 14 There was an issue that was raised by 15 commenters about the statement that there shall be no 16 loss of VOC emissions to the atmosphere. This language 17 is consistent with the federal New Source Performance 18 Standard Quad 0a, and so the Department intends to keep 19 this definition in line with that federal -- federal 20 definition. 21 The second definition is control device, which 22 I won't belabor here before you. 23 We did receive a request from stakeholders to 24 strike "air fuel ratio controllers" from this 25 definition. The Department agreed with that request, as

1879 1 it did not intend to regulate air fuel ratio controllers 2 as control devices and didn't conduct any type of 3 technical or regulatory analysis on -- on that as if it 4 were a control device. So the Department agrees to that 5 deletion. 6 There was a requested addition of this 7 definition of vapor recovery control unit to distinguish 8 between vapor recovery units that are utilized in a 9 control application versus a process application. 10 The Department does acknowledge that it can be 11 used in both types of situations, however, does not 12 agree that this -- this additional definition is 13 necessary to distinguish between the two types of 14 applications. We have met with stakeholders and shared 15 our intent, and we think that the -- the revisions made 16 to the rule address that -- that comment satisfactorily 17 and that this additional definition is unwarranted and 18 not necessary. 19 And just for the Board's benefit, the 20 Department intends to regulate only those vapor recovery 21 units utilized to meet the emission standards under this 22 part within the -- within Section 115, and so process 23 VRUs are not regulated under -- under Section 115. 24 MS. KATZ: And, Ms. Kuehn, just to clarify, 25 the -- it was NMOGA that proposed this definition?	1881 1 emissions of VOC or NOx." And the Department agreed that 2 that was a reasonable revision to the language and 3 didn't change the intent. 4 We struck the requirement to install an 5 equipment monitoring tag. 6 We received requests in Paragraph (3), which 7 is the requirement to inspect control devices monthly. 8 We received some requests for some minor revisions that 9 we felt were in line and appropriate to clarify this 10 requirement, and those -- those revisions are before 11 you. Again they didn't change the intent. They -- they 12 strengthen and clarify this -- this section. And so the 13 Department agreed with those, as well. 14 Paragraph (4) contains a revision that we 15 think also clarifies that not all emissions can be 16 prevented during the capture and routing of VOC 17 emissions and that the -- the clarification to minimize 18 venting of unburnt gas to the atmosphere was 19 appropriate. 20 And there were other minor clerical kind of 21 editorial changes that were made, that didn't change the 22 intent of the -- the language. 23 So continuing on, this is the requirement to 24 have the closed vent system reviewed and certified by a 25 qualified professional engineer. We received requests
1880 1 MS. BISBEY-KUEHN: Correct. 2 MS. KATZ: And the definition that's indicated 3 in green on the slide is NMOGA's proposed definition 4 that the Department has not accepted into the rule, 5 correct? 6 MS. BISBEY-KUEHN: That's correct. 7 MS. KATZ: Okay. Thank you. 8 So, Ms. Kuehn, if you want to go ahead and 9 summarize the -- the provisions of the rule itself and 10 the -- and more to the point to the revisions that were 11 made. 12 MS. BISBEY-KUEHN: Sure. Thank you. 13 So before you is the standard format or 14 framework that we have developed in each of the 15 sections. 16 We have 115 Paragraph A is the applicability 17 section. And then, in fact, the title of this section, 18 as well, we received requests to insert "and closed vent 19 systems" within both of those paragraphs, and we agreed 20 with those -- with those additions. 21 Within the general requirements, again which 22 is sub -- which is Paragraph B and Subparagraph B.(2), 23 we received a request to insert that language "the 24 reasonably expected range of inlet VOC or NOx 25 concentrations or volumes" in lieu of "fluctuations in	1882 1 to clarify that it's the assessment that will be 2 certified by the qualified professional or in-house 3 engineer, and the Department agreed that that was an 4 appropriate change. 5 We also received requests to strike "design 6 and capacity." We also agreed that that was not -- not 7 necessary in order for the -- for the in-house or 8 professional engineer to conduct the assessment of the 9 system and to sign off on -- on that assessment. 10 There's several changes to Paragraph (6). The 11 Department agreed with those changes, as well. This 12 information has been kind of repackaged that -- so the 13 information that was previously in Subparagraphs (a) 14 through (e) have been repackaged into a single line in 15 Paragraph (a). And so we have just kind of listed those 16 requirements out instead of -- listed them out in a 17 single -- single requirement instead of flushing them 18 out in individual -- individual requirements and -- and 19 agreed that those were appropriate. 20 We made one minor edit here to clarify that 21 the flare shall be properly sized and designed to ensure 22 proper combustion, and we think that was a valid edit to 23 make. 24 The rest of the requirements are items that 25 I've already spoken to so I won't go through those

1883 1 again. These establish the basic operational 2 requirements to maintain and operate the flare. 3 MS. KATZ: And just to clarify for the Board, 4 that this particular section contains several paragraphs 5 dealing with the particular control devices so this -- 6 and this is the one for the flares, correct? 7 MS. BISBEY-KUEHN: That's correct. Thank you. 8 That's a good point. 9 So this is -- we are departing now from our 10 typical framework that we -- that you have seen in other 11 sections, and we have different paragraph letters for 12 flares and closed combustion devices on vapor recovery 13 units, which you'll see. 14 So there are different types of requirements 15 depending on the type of flare, which I spoke to 16 previously, and there's also different types of 17 requirements if that flare was located on a small 18 production site, and these edits were made to align with 19 the OCD's regulations, so that there's some alignment 20 there between those two requirements and no -- no due -- 21 no duplication or contradiction between those -- those 22 requirements. 23 We received an -- so I won't -- I'm not going 24 to go through and read all of these in detail, but if 25 anyone has any specific questions, I'm available to --	1885 1 recordkeeping requirements for the flare. Again we made 2 minor editorial changes here that were discussed 3 previously. So this is aligning with the other language 4 of the requirement. And this -- this additional changes 5 that -- there's -- there's not substantive edits made 6 here in any part of this -- this section. 7 So we're now to the requirements for enclosed 8 combustion devices and thermal oxidizers, which are 9 essentially identical to the open flare requirements. 10 And so many of the edits made here are similar to the 11 ones that were made for the flare section. So the 12 language that it be properly sized and designed to 13 ensure proper combustion efficiency is -- is identical 14 to the change made to the flare section. 15 We've added clarifications when those units 16 have to be equipped with a continuous pilot or an 17 auto-ignitor. So new units need to have that kind of 18 technology upon startup, and existing units have two 19 years to comply with that requirement. 20 And again in Paragraph D language was added so 21 that a visible emission observation can be concluded if 22 an owner or operator records and takes action to address 23 the visible emissions. 24 This slide is -- contains the monitoring 25 requirements for the ECD and thermal oxidizer. Again
1884 1 to ask -- or to answer questions. 2 Paragraph D before you, an edit was made to 3 clarify that observations of the visible emissions may 4 be terminated if the evidence of a visible emission was 5 observed and recorded and action is taken to address the 6 visible emissions. And the Department finds that 7 reasonable. If an owner or operator is -- is addressing 8 a visible emission, there's no need to continue to 9 conduct a 15-consecutive-minute visible emission 10 observation in order to demonstrate that there were 11 emissions observed. 12 We also clarified that flares shall be 13 repaired within three business days of a thermocouple or 14 other alarm activation. 15 And the final language at the bottom of (2)(c) 16 here formalizes the edit that was made above in 17 Paragraph D. So again that monitoring of the visible 18 emissions doesn't have to be continued if the owner or 19 operator takes an issue to -- and observes and records 20 and action is taken to address the visible emission. 21 So these are the -- continuing on with the 22 monitoring requirements of the flare, the EMT tag 23 requirement was deleted and replaced with a date and 24 time stamp of the monitoring event. 25 And then Subparagraph (3) are the	1886 1 that added language in (b) is formalizing that 2 requirement that I just spoke to. There were other very 3 minor editorial changes made here that didn't change the 4 intent of the -- of the language and was acceptable to 5 the Department. 6 Subparagraph E -- or Paragraph E are the -- 7 outline the requirements for vapor recovery units. 8 Paragraph (1)(a) and (b) speak to the emission standards 9 or the operational standards for these units. 10 The insertion of this language in (1)(b) was 11 important in that there are air permits that are -- that 12 have been issued that don't require redundant VRUs to be 13 brought on site during VRU downtime. And so this aligns 14 with those existing air permits. And -- and the 15 Department found that was reasonable. It only applies 16 to existing air permits that were in effect prior to the 17 effective date of this part. So there is a sunset 18 clause on that provision. 19 And also, we've added in an option that 20 alternatively -- and this was based on a request from -- 21 from stakeholders that the owner or operator may shut 22 down the unit being controlled by the VRU. And then 23 also for sites that already have a VRU installed as of 24 the effective date of this part, it gives a longer 25 compliance timeline to install backup control devices,

1887 1 and that timeline has been extended to three years, 2 which the Department also finds reasonable. 3 So these are the monitoring requirements of 4 the vapor recovery unit section. There's not -- there 5 have been not many substantive edits here made at all. 6 These are clarifying edits that don't change the intent 7 for purpose of the requirement. They formalize 8 revisions that have been made in previous subsections. 9 And so there's not -- not new -- no new -- no new 10 requirements. 11 That -- that was the end of the -- that ended 12 very quickly. 13 MS. KATZ: Madam Hearing Officer, that 14 concludes the Department's presentation on the control 15 devices section. 16 HEARING OFFICER ORTH: Thank you very much, 17 Ms. Katz and Ms. Kuehn. 18 If you are a party with a question of 19 Ms. Kuehn, please turn on your camera. 20 I see Mr. Hiser. 21 MR. HISER: Thank you, Madam Hearing Officer. 22 CROSS-EXAMINATION 23 BY MR. HISER: 24 MR. HISER: Thank you, Ms. Kuehn, for your 25 testimony on the control devices provision.	1889 1 been really more the maintenance and the unavoidable 2 issues if you have to open. So I appreciate that 3 clarification. 4 And then in Subpart TT you talked about the 5 vapor recovery control unit. 6 And I just wanted to confirm that the 7 Department by including vapor recovery units in the 8 definition of control device was not trying to adopt a 9 global determination that all VRUs are now control 10 devices; is that correct? 11 MS. BISBEY-KUEHN: Correct. 12 MR. HISER: And so where there's already been 13 work done between you and an operator as to whether a 14 specific VRU is a process or a control device, that 15 prior determination would still remain in effect for 16 the -- 17 MS. BISBEY-KUEHN: (Nods head.) 18 MR. HISER: Okay. Thank you. That's very 19 useful, as well. 20 A couple of other things, then, and these -- 21 slide through the slides, but perhaps maybe we can go to 22 Section C. 23 One of the questions that we had, if you look 24 at C.(1)(b), and then there's four little Roman 25 numerals, I guess we call them romanettes, underneath
1888 1 I have a few questions, and I don't know if it 2 would be easiest to maybe have you bring slides up so 3 that we can talk about at least the first two, and those 4 are on that definitions slide. 5 MS. BISBEY-KUEHN: Sure. 6 MR. HISER: Perfect. 7 So my first question is in the definition F 8 for closed vent system, and I know that you testified 9 that there should be no loss of VOC emissions to the 10 atmosphere. 11 I was wondering if you could explain how an 12 operator is supposed to do maintenance work on a closed 13 vent system without having a loss of VOC emissions and 14 you have to open the system in order to work on it. 15 MS. BISBEY-KUEHN: Yes. And so we -- we've 16 aligned this definition with the federal definition, 17 which also states no loss of VOC emissions to the 18 atmosphere. And so I think we can be in agreement that 19 during maintenance there's going to be some maintenance 20 emissions associated with the venting, but that it shall 21 be -- when it's operational. During normal operations 22 the expectation is that there shall be no loss of VOC 23 emissions to the atmosphere. 24 MR. HISER: I believe industry would be very 25 supportive of no loss during operation. Our concern has	1890 1 it. In romanette (iii), maybe it's (iv), some of these 2 have effective dates, and some of them don't. 3 Could you walk through the effective dates 4 that the Department is looking for? Because there seems 5 to be variations between continuous and noncontinuous 6 flares, and so we weren't sure what your thoughts were 7 for the noncontinuous flares. 8 MS. BISBEY-KUEHN: Yes. So the (b) -- so 9 Paragraph C.(1)(b)(i) states that a flare with a 10 continuous pilot flame or an auto-ignitor shall be 11 equipped with a system to ensure the flare is operated 12 with a flame present at all times when gas is being sent 13 to the flare. 14 And so is your question -- 15 MR. HISER: So yeah. It's is that immediately 16 upon the effective date, or did you intend that there be 17 a period of time to make that occur? 18 MS. BISBEY-KUEHN: There should be a -- yes. 19 We can certainly work with clarifying compliance 20 deadlines for that. 21 MR. HISER: But in general, your thinking was 22 a year for most of these flare provisions on existing -- 23 MS. BISBEY-KUEHN: It was a year for most of 24 the existing flare requirements. 25 MR. HISER: That's what we understood, but it

1891 1 was a little bit hard with (b) to quite follow it 2 through all the way. 3 Another question that had come up is there's a 4 requirement -- I believe it's here in the open flare -- 5 that says that we have to have a flame present at all 6 times when gas is being sent to the flare. 7 And because we're industry and because we're 8 hypercautious, we just wanted to be certain that there 9 was no disagreement that if there is a little bit of gas 10 prior to the first spark from the auto-ignitor, that 11 that was not what you were contemplating as a violation 12 of C.(1)(b)(i). 13 MS. BISBEY-KUEHN: No. That's not what we 14 intended. 15 MR. HISER: Yeah. 16 Then in C.(1), I think it's (e), if we can go 17 down just a couple pages, it talks about here the owner 18 or operator shall repair the flare within three business 19 days of any thermocouple or other flame detection device 20 alarm activation. 21 Can you explain a little bit what the 22 Department's expectations are if we believe it's a false 23 alarm or a failure of that monitoring system? 24 MS. BISBEY-KUEHN: I'm sorry. So your 25 question is how would we handle that situation --	1893 1 sizing is, as opposed to, say, instantaneously 2 everything that could potentially possibly go into the 3 system dumping at that same instant second? 4 MS. BISBEY-KUEHN: The reasonably expected 5 range is -- should be -- well, the unit needs to be 6 sized for the -- for the emission sources that is 7 intended to control. And I think that that would be 8 kind of an unusual event, to have everything dumping at 9 the same time. 10 I guess I would need more kind of -- more 11 information about what that -- what that event was. If 12 that was the normal mode of operation, then the unit 13 should be sized for handling all of those streams 14 consecutive or simultaneously. 15 MR. HISER: So I think the issue arises -- and 16 that's a really good question back on your part, 17 because, obviously, it's different if you have one unit, 18 one control device, but as I think we've heard 19 testimony, sometimes there will be many units that go to 20 a single control device, and so there may be quite a 21 number of potential inflows. 22 And so in that latter situation, that's really 23 where we're starting to look more at the use of 24 engineering judgment to balance the fact that there are 25 multiple flows that may or may not be going on at any
1892 1 (Simultaneous discussion.) 2 MS. BISBEY-KUEHN: -- if there was a -- if it 3 was an issue with the alarm itself and not the flare? 4 MR. HISER: Correct. 5 MS. BISBEY-KUEHN: Okay. So I think that 6 needs to be documented, of course, that there was an 7 attempt made to repair the flare and there was 8 indications that the flame activation itself -- the 9 alarm activation itself -- 10 MR. HISER: So you -- 11 (Simultaneous discussion.) 12 MS. BISBEY-KUEHN: -- functioning. 13 MR. HISER: -- that it -- basically that it 14 was a false alarm and the flare appears to be operating 15 appropriately? 16 MS. BISBEY-KUEHN: Correct. 17 MR. HISER: Okay. Thank you very much. 18 Let me check my notes here. 19 And then in a couple of places, you refer to 20 an expected range and properly sized, as it relates, I 21 think, to flares and enclosed combustion devices and 22 thermal oxidizers. 23 And by that are you expecting the designer to 24 use professional -- you know, appropriate professional 25 engineering judgment to determine what that appropriate	1894 1 one time going to that control device. 2 MS. BISBEY-KUEHN: Yes. I'm not sure if 3 that -- if you have a follow-up question for me. 4 MR. HISER: So that -- would that be the type 5 of situation where you would expect the design engineer 6 to exercise that judgment on what is reasonably 7 anticipated or reasonably expected range of in -- of 8 inflows? 9 MS. BISBEY-KUEHN: Yes. And I would qualify 10 that if -- yeah. If it's -- if it's expected that all 11 of those emissions occur simultaneously, then the unit 12 should be sized to handle that flow. 13 MR. HISER: Okay. 14 Thank you. That's all my questions. 15 HEARING OFFICER ORTH: Thank you. 16 Are there any other parties with questions of 17 Ms. Kuehn or Ms. Palmer? 18 Let's see. Not seeing other parties turning 19 on their camera. 20 As I read across the spreadsheet, I see that 21 Oxy had proposed a witness, witness Holderman. 22 Is that still true? 23 Mr. Janoe? 24 MR. JANOE: Yes. Yes, Madam Hearing Officer, 25 it is.

1895 1 HEARING OFFICER ORTH: Okay. 2 So shall we take Mr. Holderman next? 3 MR. JANOE: We are ready if the -- if the 4 Hearing Officer is. 5 HEARING OFFICER ORTH: Absolutely. 6 Mr. Holderman, if you would turn on your 7 camera, please. 8 MR. JANOE: We'll be swapping out again, Madam 9 Hearing Officer. I thought I'd give a quick, little 10 intro on what Mr. Holderman will be talking about, and 11 we will -- we will swap out. I -- forgive us if -- we 12 still haven't found a better solution even over the 13 weekend as we were looking on the IT side. So I hope 14 you will indulge us yet again. 15 HEARING OFFICER ORTH: No. That's great. Two 16 for one on a screen. That's great. 17 All right. Mr. Holderman is still under oath. 18 MR. JANOE: Yes. 19 20 21 22 23 24 25	1897 1 proceedings, the various Board Members, pretty much 2 everybody that we've heard, retrofits that -- that will 3 be required based on the size of the number of wells, 4 et cetera, in New Mexico will be substantial. 5 Our concern is that steel shortages, component 6 shortages, lack of skilled manufacturing labor, limited 7 manufacturing capacity, lack of skilled installers, and 8 other supply chain issues, as well as the growing demand 9 for similar equipment in other states will all limit the 10 ability of operators to timely meet the retrofit 11 installation requirement of the rules. 12 It could take years for manufacturing 13 capabilities and the labor force to scale up to 14 necessary levels. And even if manufacturing 15 capabilities are ramped up, they still need the skilled 16 personnel to install and maintain the equipment. When 17 all operators statewide begin taking similar steps to 18 come into compliance with these rules, all of these 19 issues will come to bear. 20 At this point there is simply not enough 21 manufacturers, technicians or laborers to meet this 22 demand in the proposed (unintelligible and/or 23 inaudible). 24 To put in better context with VRUs 25 specifically, control device manufacturers have
1896 1 DANNY HOLDERMAN 2 (Relating to Topic Order 26) 3 having been first duly sworn or affirmed, was 4 examined and testified as follows: 5 DIRECT EXAMINATION 6 BY MR. JANOE: 7 MR. JANOE: So Mr. Holderman will be speaking 8 to one very specific issue that has not otherwise been 9 resolved in the September 16th changes that were made by 10 the agency. Specifically it relates to 11 Section 115E.(1)(b) and the implementation schedule for 12 redundant backup control devices and vapor recovery 13 units. 14 The revisions that were made by the agency 15 extended that time period from no specified time period 16 to a period of three years, and Mr. Holderman will be 17 testifying about why five years would make sense in that 18 context. 19 So I will turn this over to Mr. Holderman. 20 Q. So, Mr. Holderman, if you would explain to the 21 Hearing Officer and the Board why it is that five years 22 as opposed to three years would make sense. 23 A. Sure. Get down to -- to the business. 24 When we -- when we looked at this, and as it's 25 been acknowledged by the parties on all sides of the	1898 1 estimated during recent discussions that the marker as a 2 whole can produce up to 500 VRUs in a year, which is not 3 enough to meet the substantial demand increase -- or -- 4 excuse me -- the substantial increase in demand 5 triggered by the rule. 6 This is why Oxy believes it's critical to 7 provide additional phase-in time that accounts for the 8 realities of these resource restrictions. Without 9 meaningful additional relief on these deadlines, Oxy and 10 other operators run the risk of becoming out of 11 compliance for reasons that are completely out 12 (unintelligible and/or inaudible). 13 Q. Mr. Holderman, you had mentioned about sort of 14 the capacity in the market. 15 Just to give the Board a little bit of an idea 16 of what that means, how many again -- how many VRUs can 17 be manufactured in a year again, sir? 18 A. 500-and-something. 19 Q. And Oxy would need approximately how many to 20 meet the requirement -- the requirements of this rule? 21 A. We've estimated so far that we would need 22 between 150 and 200 VRUs for the 2,700 wells that we 23 operate in the state, just to come into compliance. 24 That's not including the additional VRUs we will need 25 for our normal (unintelligible and/or inaudible).

1899 1 Q. And, Mr. Holderman, approximately what 2 percentage of wells in New Mexico are Oxy wells? 3 A. My best estimate of that one has just been by 4 the information here. So I think that we've heard that 5 we have somewhere between 54,000 and 55,000 wells. As I 6 said, Oxy had -- the actual number is 2,745 that we 7 operate. So we operate roughly 5 percent 8 (unintelligible and/or inaudible). 9 MR. JANOE: No further questions on direct for 10 Mr. Holderman. We present him for cross. 11 HEARING OFFICER ORTH: Thank you very much, 12 Mr. Janoe and Mr. Holderman. 13 If you're a party with a question, please turn 14 on your screen. 15 Ms. Katz. 16 MS. KATZ: Thank you, Madam Hearing Officer. 17 I just have a quick question. 18 CROSS-EXAMINATION 19 BY MS. KATZ: 20 Q. Mr. Holderman, the numbers that you're talking 21 about about how many VRUs can be manufactured, do you -- 22 do you submit any evidence of that -- for that number or 23 any data for the basis of that? 24 A. The -- that came from conversations with our 25 suppliers, and it's submitted in my direct testimony.	1901 1 I am happy to report that since that time NMED 2 has addressed the GCA's concern with Sections 115 and 3 113 in NMED Rebuttal Exhibit 23. 4 Given the cooperation and in an effort to 5 streamline this proceeding, if parties or Board Members 6 have questions for Mr. Filby, he is actually unavailable 7 this afternoon, but he is available to appear Thursday 8 or Friday. Otherwise, the GCA is satisfied with the 9 admission of Mr. Filby's resume and testimony, which 10 have been marked GCA Exhibits 23 and 24 respectively, 11 into the record and as support for Sections 115B.(4) and 12 113B.(2) as set forth in NMED Rebuttal Exhibit 23. 13 HEARING OFFICER ORTH: Thank you very much, 14 Ms. Sheehan. 15 Let's see. Does NMOGA intend to put on 16 witness Meyer? 17 MR. HISER: Yes, Madam Hearing Officer, we do. 18 HEARING OFFICER ORTH: All right. Thank you. 19 Mr. Hiser, go ahead. 20 MR. HISER: So as -- it's Adam Meyer, should 21 hopefully be a panelist. 22 And he will need presentation rights at the 23 appropriate time. 24 HEARING OFFICER ORTH: Terrific. 25 MR. MEYER: Yes. I'm here.
1900 1 Q. As -- there's exhibits in -- to the testimony? 2 A. Yes. 3 MS. KATZ: Okay. Thank you. 4 HEARING OFFICER ORTH: Okay. Thank you. 5 Any other party with a question, turn on your 6 camera. 7 I'm not seeing anyone. 8 Thank you very much, Mr. Holderman. 9 The questions from the Board will come up in 10 just a little bit. 11 Does GCA still intend to present witness 12 Filby? 13 MS. SHEEHAN: Madam Hearing Officer, 14 Mr. Filby's direct written prefiled testimony, which is 15 GCA Exhibit 23, addressed the GCA's proposed amendment 16 to the Department's proposed control device inspection 17 schedule, as set forth in the Department's May 6, 2021, 18 proposed rule at Sections 115B.(4) and 113B.(2). 19 The GCA was particularly concerned with the 20 requirements of the proposed rule as they relate to 21 catalytic converters, an important emissions control 22 device for compressor engines, and that the monthly 23 inspection requirement could be interpreted to require 24 unnecessary and potentially counterproductive physical 25 inspections of catalytic converters.	1902 1 Can you hear me? 2 HEARING OFFICER ORTH: Yes. 3 MR. HISER: Madam Hearing Officer, he has not 4 yet been sworn. So you might like to do that. 5 HEARING OFFICER ORTH: That's right. 6 Would you spell your name, please, Mr. Meyer. 7 MR. MEYER: Adam Meyer, A-D-A-M, last name is 8 Meyer, M-E-Y-E-R. 9 HEARING OFFICER ORTH: Thank you. 10 Would you raise your right hand. 11 Do you swear or affirm to tell the truth? 12 MR. MEYER: I do. 13 HEARING OFFICER ORTH: Thank you. 14 ADAM MEYER 15 (Relating to Topic Order 26) 16 having been first duly sworn or affirmed, was 17 examined and testified as follows: 18 DIRECT EXAMINATION 19 BY MR. HISER: 20 Q. Adam, you should be able to share your screen. 21 A. Okay. Thank you. 22 Let's try this out. 23 Can everyone see that? 24 Q. We can see it. 25 Can you make it bigger?

1903 1 A. Let's do presentation mode. 2 How's that? 3 Q. That's very good. Thank you. 4 Mr. Meyer, could you state what your 5 involvement is in this proceeding? 6 A. Yes. My involvement in this proceeding was to 7 coordinate the Valor EPC team, as well to provide 8 technical testimony on various portions of the rule, 9 including storage tanks, control devices and pneumatics, 10 to name a few. 11 Q. Is NMOGA Exhibit Number 30, which was 12 previously admitted, an accurate copy of your resume? 13 A. Yes. 14 Q. Could you please state your qualifications as 15 they relate to your participation in this hearing? 16 A. Yes. So I hold a bachelor's of mechanical 17 engineering from Penn State University and a master's 18 from the University of Florida in thermal fluids 19 transport. 20 I have been designing facilities, piping 21 facilities, for almost 20 years, various different 22 industries. I started with electric boat building on 23 submarines, so doing a lot of piping systems, propulsion 24 systems for that capacity. 25 I worked at Kennedy Space Center, Florida,	1905 1 testimony here today? 2 A. Yes, I do. 3 Q. And then did you rely on various facts and 4 figures in NMOGA Exhibits 10 through 21 as you were 5 preparing your testimony? 6 A. Yes. 7 Q. Have you provided a summary of your direct and 8 rebuttal testimony? 9 A. Yes. I have provided a summary of my rebuttal 10 today. That relates to control devices. 11 Q. All right. Well, let's then go through that 12 summary for the Board, please. 13 A. Okay. In the context of the control devices 14 discussion, like I said, I have -- was part of many 15 portions of this rulemaking. So I'll keep it just to 16 the control devices for now. 17 Part of my rebuttal testimony was to provide a 18 little bit of clarification for some of the red-line 19 justifications as it pertains to capture of 95 percent, 20 you know -- you know, design efficiency for 98 percent 21 of combustors. And what I'd like to do is just -- as 22 part of the rebuttal was to go through what we on the 23 engineering on the ground floor -- how we -- how we 24 evaluate and how we size these control devices. 25 So in this first PowerPoint, what we do when
1904 1 where I was a thermal fluids engineer and cryogenics 2 specialist and all other gas type of facilities, did 3 that for eight years. I worked in gas turbines, balance 4 of plant systems for -- at -- for Siemens-Westinghouse. 5 And in the past eight years, I have been in 6 oil and gas, doing upstream and midstream production 7 facilities and midstream facilities. I would say in the 8 past seven years has been -- the focus -- my focus has 9 been facility design for emissions reduction and 10 compliance. And that actually extends to a lot of 11 different disciplines. 12 More specifically, I'm probably more well 13 known for my work in storage tanks and vapor control 14 systems. Myself and my team have evaluated over 2,000 15 tank batteries in that time, and many of the terms that 16 we are using today were coined by myself and my team. 17 Q. Thank you. 18 Do NMOGA Exhibits A2 and 42, which were 19 previously admitted, reflect your direct and rebuttal 20 testimony filed in this matter? 21 A. Yes, they do. 22 MR. HISER: And for the Board, that means 23 you'll -- A2 and 42 will be where you'll find 24 Mr. Meyer's direct testimony. 25 Q. And do you adopt that testimony as your	1906 1 we are evaluating a facility and sizing a control device 2 is -- is we start with a process simulation of -- 3 usually of the entire facility, and through that we're 4 performing a sensitivity study, you know, regarding what 5 flow range we need to operate, pressure and temperature 6 range, and the kicker, which is our composition of the 7 gas that we are trying to combust or flare. 8 What I will -- part of this process is 9 designing for normal operations or for CO processes and 10 evaluating the turndown of those devices that we want. 11 So usually you'll do this process simulation and you 12 will create a spec -- a spec sheet that we provide to a 13 combustor flare or VRU manufacturer that says here's our 14 what we think the composition is going to be and here is 15 the process and pressure and temperature ranges it needs 16 to operate in. 17 So the key here is that going through all that 18 we have a design condition. Right? And I want to talk 19 about how design is different than operations, because 20 our design is the full intention to capture all vapors, 21 off of tanks or other processes, and to combust them 22 efficiently based on what we know of the -- of the 23 composition. 24 Q. And then before you go to that slide -- 25 A. Sure.

1907 1 Q. -- you had a reference to something called 2 turndown, and I think that may not be a term that's 3 familiar to the Members of the Board. 4 If you could spend a moment talking about what 5 turndown is and why it's an issue. 6 A. Okay. Very good point. 7 So turndown is a piece of equipment's ability 8 to properly operate to an entire range that is being 9 demanded to operate in. So I think a lot of people are 10 familiar with the term "PPIVFR," Peak Potential 11 Instantaneous Vapor Flow Rate. And there's a new one 12 which is the Potential Minimum Instantaneous Vapor Flow 13 Rate. 14 Those two terms, which may or may not be 15 brought up in various consent decrees or negotiations, 16 is an attempt to describe turn down. If I design a 17 facility to process -- or flare to process 100 Mcfd, 18 million standard cubic feet per day, how efficient is it 19 at 1 million standard cubic feet per day. So that 20 turndown ratio is something that's very critical when 21 we're designing a system. 22 Q. And so basically what you want to do is design 23 a control device that will operate at the optimal 24 efficiency for the majority of time that it's operating, 25 as opposed to the very long tails of how that device may	1909 1 ultimately during operations there are some -- a lot of 2 unknowns. 3 This especially becomes a problem with 4 temporary flares, temporary equipment, where there is a 5 massive hurry-up to bring something out onto the site to 6 control emissions to the best of our ability, but we 7 don't have all these answers, like gas sample -- gas 8 composition. We don't have time to go through that CVS, 9 closed vent system, analysis or get it even certified. 10 Right? As would be required if it were classified as a 11 control device in the context of this rule. 12 So a lot of these temporary equipment, we 13 are -- it's a -- it's a minimizing to your best effort. 14 I think Colorado coined the term "maximum extent 15 practicable." There -- that is a -- what we're trying 16 to do is do our best to get the emissions under control 17 for these temporary -- temporary equipment. 18 And so part of that is we need to -- my 19 opinion is having a carveout, not only to differentiate 20 between design requirements and operational 21 requirements, but have a carveout specifically for 22 temporary emission control equipment. 23 Q. And so if I can back up for just a second 24 there to provide perhaps a scenario. 25 So when you're talking about temporary
1908 1 be called upon to operate? 2 A. Exactly. What's more of a problem is that the 3 demand of the range is becoming greater with a lot of 4 rule -- a lot of rules that are coming out. Designing 5 for a worst case event, as we call it the hundred-year 6 flood event, where everything flows through the 7 combustor at once, you know, that means the combustor 8 meets a huge demand, but normal operations is a fraction 9 of that. 10 So what you see is turndown issues in the 11 field, where we've oversized the equipment based on 12 precedent set, and during normal operations the amount 13 of gas is not nearly that much. And so there's a 14 potential turndown issue. 15 Q. Okay. Why don't you move on. 16 A. Okay. 17 So, you know, again we're -- we're talking 18 about design versus operations. In operations there is 19 potential for unanticipated scenarios, flows, pressures, 20 temperatures. Even, you know, ambient conditions will 21 affect -- you know, will vary and beyond what we've, you 22 know, designed for. So -- and then on top of that, 23 there are potential for fluctuating compositions. 24 So we design as best we can these control 25 devices or, you know, spec them out, I should say. But	1910 1 emission control, would that be a situation where, say, 2 a facility has a permanent flare, and for some reason 3 that permanent flare malfunctions, and we're trying to 4 input in its place a temporary flare to control the 5 facility while they're working on the permanent flare? 6 Is that what you're concerned about? 7 A. Correct. That's a situation, and that 8 concerns me. 9 Q. Why don't you go on to your next slide. 10 A. Okay. Kind of along the same lines of, you 11 know -- I'm providing these pictures to show an example 12 of the difference between no emissions and minimal 13 emissions as it -- as it pertains to the definition of 14 closed vent system. 15 There are some situations that we just 16 cannot -- cannot prevent. So here's an example. The 17 picture to the left is a pinhole leak created by a 18 manufacturing defect in the casting. That was -- and it 19 was so small that no one could be able to see that when 20 they were putting this in operation. 21 You know, the picture to the right is an 22 example of a thief hatch, and this may be in the weeds, 23 but you'll notice that the one -- the thief hatch on the 24 left does not have a groove and the one on the right 25 does. That is to illustrate that in that instance the

1911 1 vacuum pallet on the thief hatch was shipped incorrectly 2 assembled, and it was put in without a thought and -- 3 but that created a higher potential for -- of emissions 4 from the thief hatch. 5 And the last one I'd like to show is 6 100 percent capture is pretty impossible, and here's 7 just an example of a, you know, truck line connection 8 and disconnection. There will be trace amounts of VOCs 9 that get emitted during that time. We can design, you 10 know, as best we can to minimize emissions, but there 11 will always be a little bit. 12 And so we want to tailor the rules to -- as a 13 best effort to say we want to minimize emissions to the 14 maximum extent we can. 15 That concludes this section. 16 Q. So if you were to be making a recommendation 17 to the Board and to the Department, would one of those 18 things be that, for example, where there is the very 19 detailed CVS assessment requirement, that that may not 20 be appropriate for this temporary equipment where you're 21 bringing it in, for example, where the main flare went 22 down and you're trying to put a temporary flare in, in 23 that situation? 24 A. Yes. I think the rules need to have a 25 carveout specifically for those situations.	1913 1 define it, and maybe that's where we haven't quite 2 aligned on it yet. To my knowledge, that's where we 3 left it. 4 Q. Okay. 5 And the Department would be amenable to 6 considering that language and to working -- to working 7 on that to where we can get to an acceptable place for 8 both of us. 9 A. Okay. Great. That would be great. I'd be 10 happy to help. 11 HEARING OFFICER ORTH: Okay. Thank you. 12 As -- 13 MS. KATZ: That's all I have at this time. 14 HEARING OFFICER ORTH: All right. Thank you. 15 As I understand it, Mr. Rose indicated that 16 Mr. Brown would not be presenting on Topic 26. We've 17 already heard from Mr. Holderman. 18 And I understood an earlier e-mail from 19 Ms. Paranhos to mean that Mr. Alexander would be 20 testifying on Section 117 and not 115, but let me see if 21 I can get confirmation. 22 Ms. Paranhos? 23 MR. GONZALES: Madam Hearing Officer, this is 24 Rico Gonzales on behalf of IPANM. 25 Yeah. We request that our witnesses be here
1912 1 MR. HISER: Okay. Thank you. 2 That's all my questions. 3 HEARING OFFICER ORTH: Thank you, Mr. Meyer 4 and Mr. Hiser. 5 If you would stop sharing your screen briefly. 6 MR. MEYER: Okay. 7 HEARING OFFICER ORTH: Are there any parties 8 who have a question of Mr. Meyer? Please turn on your 9 camera. 10 All right. Let's see. 11 MS. KATZ: Madam Hearing Officer. 12 HEARING OFFICER ORTH: Ms. Katz. 13 MS. KATZ: I was going to maybe -- was going 14 to make the point with Ms. Kuehn, but I think I'll just 15 do it with Mr. Meyer for the interest of time because 16 it's easier. 17 CROSS-EXAMINATION 18 BY MS. KATZ: 19 Q. Mr. Meyer, have -- do you know if NMOGA has 20 proposed any language to address your concerns regarding 21 use of temporary control devices in cases of 22 malfunctions or emergencies like you have testified 23 about? 24 A. If I recall, there was an attempt to exclude 25 temporary. I think maybe more work needed to be done to	1914 1 tomorrow. 2 HEARING OFFICER ORTH: Oh, okay. All right. 3 So you do -- you will be presenting Mr. Brown 4 on Section 115? 5 MR. GONZALES: Not today. 6 HEARING OFFICER ORTH: Okay. Thank you. 7 MR. GONZALES: Thank you. 8 HEARING OFFICER ORTH: We may not have 9 Ms. Paranhos. But I -- I understood her e-mail to mean 10 that Mr. Alexander would not be presenting on subject 11 1 -- Section 115, but rather Section 117. 12 All right. So I think at this point we will 13 ask all of the witnesses who have testified on 14 Section 115 to engage their camera so that we can turn 15 to the Board for their questions. 16 While we're doing that, if you're an attendee 17 on this platform and you would have a question, please 18 reach out through the chat. 19 So I see Ms. Kuehn and Mr. Palmer and 20 Mr. Janoe's witness. Let's see, who else. And 21 Mr. Meyer. All right. 22 23 24 25

1915 1 ELIZABETH BISBEY-KUEHN, BRIAN PALMER, 2 DANNY HOLDERMAN and ADAM MEYER 3 (Relating to Topic Order 26) 4 having been first duly sworn or affirmed, were 5 examined and testified as follows: 6 EXAMINATION 7 BY THE BOARD: 8 HEARING OFFICER ORTH: Madam Chair, do you 9 have questions of the Section 115 witnesses? 10 CHAIR SUINA: Yeah. I think this is just a 11 follow-up to Ms. Katz' question, is -- I think this 12 would be for Ms. Kuehn, is -- what's been any discussion 13 regarding the temporary -- the language for temporary 14 flaring? Has there been any consideration? And if 15 there has been, can you just share with the Board what 16 it has been thus far? 17 MS. BISBEY-KUEHN: Yes, Chair Suina. There 18 was a request to simply exempt temporary equipment from 19 the operational standards under the section. The 20 Department did not agree to exempt those temporary 21 controls from the operational standards. But we are 22 willing to consider a definition of temporary and -- and 23 find a way to come to an agreement on what -- what 24 standards would apply for those -- for those sources. 25 CHAIR SUINA: Thank you, Ms. Kuehn.	1917 1 Is there a -- do you have an estimate as to 2 how often an unanticipated issue or situation arose, 3 say, in the last year? 4 MR. MEYER: Oh, let's see. 5 I'm sorry. I can't think of one off the top 6 of my head, of an unanticipated operation that -- a lot 7 of times there -- it's associated with a malfunction, to 8 be honest. However -- I'm trying to think of a good 9 example, but it's not coming to mind. 10 I may be able to put out some anecdotal to the 11 group if that's of interest to people. But it would 12 have -- I think when Mr. Hiser is referring to -- you 13 know, we're referring to temporary, it was to, you know, 14 you have a permanent in-place flare combustor, and then 15 the lead time to procure one in a quick order before 16 this other one gets repaired can sometimes be very 17 difficult, and we have to do whatever we have to do to 18 put -- to get it under control. 19 So I think it really comes back to Ms. Katz' 20 point, the -- how do we define temporary. And I'll find 21 some scenarios for us to talk about. 22 CHAIR SUINA: Absolutely. You know, my 23 background and -- is in water, and so when you use the 24 phrase "100-year flood event," I -- 25 MR. MEYER: (Unintelligible and/or inaudible.)
1916 1 And have any of the other -- I know EDF had a 2 witness. Has there been any other concerns regarding 3 some of the language from some of the other parties, 4 other than the industry? 5 MS. BISBEY-KUEHN: Madam Chair, let me look 6 into that. 7 MS. KATZ: And, Madam Chair, I'll just say 8 that if they -- if a party hasn't put up a witness on a 9 certain topic or section, it's usually indicative that 10 they didn't have specific concerns about that. But -- 11 and I don't know -- I can't -- I don't know if EDF's 12 witness -- I can't remember if it was -- he was supposed 13 to testify on this point or a different one. 14 CHAIR SUINA: Okay. I just wanted to make 15 sure -- thank you, Ms. Katz. I just wanted to make sure 16 since I know EDF was listed as a rebuttal witness -- I 17 just wanted to kind of have an understanding if there 18 was any other concerns. 19 And then I think I have one more question 20 for -- I think it's Mr. Meyer. 21 I know you had talked about some of these 22 issues with -- regarding temporary issues or temporary 23 flaring that -- that needs to happen, and I think you 24 used the language they were unanticipated, you know, 25 instances or situations.	1918 1 CHAIR SUINA: -- I resonated with that, and so 2 I was thinking is it every hundred years, is it every 3 year. And so I just wanted to get some kind of idea of 4 how frequent, you know, this situation would arise. 5 MR. MEYER: Yeah. And I guess I couldn't 6 answer that at this time. 7 CHAIR SUINA: Okay. 8 MR. MEYER: Thanks. 9 CHAIR SUINA: All right. Thank you so much, 10 and maybe -- we're still here for a couple of other 11 days, maybe that information will be available later on. 12 MR. MEYER: Sure. 13 CHAIR SUINA: Would that be possible? Okay. 14 Thank you. 15 (Simultaneous discussion.) 16 MS. BISBEY-KUEHN: Madam Chair, if I could 17 come back to your original question. 18 So I went through our rebuttal testimony, and 19 I didn't see any -- any of the other parties 20 specifically commenting on that section. However, 21 EDF's -- in their original proposal they had included 22 their flowback vessel requirements within Section 115. 23 They have subsequently moved those out of 115, into 24 their own -- into its own section. 25 CHAIR SUINA: Okay. Thank you for that,

1919 1 Ms. Kuehn. I appreciate it. 2 Thank you, Madam Hearing Officer. That's all 3 for now. 4 HEARING OFFICER ORTH: Thank you. 5 Vice-Chair Trujillo Davis. 6 VICE-CHAIR TRUJILLO DAVIS: Yes. Thank you. 7 And I'm going to skip around to a couple of 8 different witnesses, but I'm going to start with 9 Ms. Kuehn. 10 I just want to say that I -- one of the 11 stronger points in this rule that I've seen so far was 12 in the engine portion where there was effective dates 13 and percentages for compliance, the 35 percent by a 14 certain date and so on. And so I have to say I -- I 15 think I echo Mr. Hiser's point when he -- he mentioned 16 that that kind of was missing from other portions, like 17 the flares -- flare portion of it. 18 So is there discussions? I just want -- I 19 think you mentioned that there would be some discussion 20 on that, but I -- I think that was a valid point. Can 21 you expand on that? 22 MS. BISBEY-KUEHN: Yes, Vice-Chair Trujillo 23 Davis. And we will -- we will go through and ensure 24 that -- that compliance deadlines are clear in each 25 section based on that comment. That may have been an	1921 1 facility. So each, you know, multiple (unintelligible 2 and/or inaudible), et cetera, on each facility. So that 3 one to two that you quote is accurate. So that puts us 4 at 120 VRUs that we would buy for our development 5 program. That's what I'm talking about. 6 That -- that equates to only about 300, 400 7 wells out of the 2,700 that we operate. So the 8 additional 150 to 200 that I'm talking about is for the 9 pre-2017 facilities that would require controls that we 10 don't currently have. And that's what I'm 11 extrapolating. 12 VICE-CHAIR TRUJILLO DAVIS: Okay. I just 13 wanted to be clear on those numbers. 14 And could you give me those numbers just one 15 more time? 16 MR. HOLDERMAN: So the notional feedback, and 17 like I said, this is just conversations with suppliers, 18 is 500. Again we would need 150 -- 500 per year -- I'm 19 sorry -- that the market has. We would need 150 to 200 20 to come into compliance, plus, like I said, what we 21 would need for our development program. So maybe 250 in 22 total over the three years that we're talking about. 23 I guess I just also wanted -- want to drive 24 home that when we're talking about this deadline we 25 actually fully support and are just trying to make sure
1920 1 oversight, and we will go back and ensure that there's a 2 clear compliance timeline for -- for each one of those 3 requirements. 4 VICE-CHAIR TRUJILLO DAVIS: Okay. 5 MS. BISBEY-KUEHN: Yeah. And so I think a 6 year would be reasonable. That is what we have 7 established in other flare requirements. But we'll go 8 back and ensure that that's as clear as it needs to be. 9 VICE-CHAIR TRUJILLO DAVIS: Okay. 10 And yes. I don't have any thoughts on your 11 timeframe on that. I just thought it was a really 12 strong point in the engines section of this rule. So 13 that's all I have on that one. 14 And then my next question is for 15 Mr. Holderman. 16 I don't see him on the screen. You're there? 17 Oh, sorry. You are -- and my screen's over here. 18 So new -- in my experience, new facilities are 19 being built with one or two VRUs. 20 So the numbers that you quoted for additional 21 VRUs, was that to bring older facilities into compliance 22 for the rule? 23 MR. HOLDERMAN: Yes. So, I mean, I guess to 24 give you notional numbers, so we -- since 2017 we've 25 built 30, 31 facilities that average about four VRUs per	1922 1 that primary VRUs are available for those that need 2 them. So the extension that we're requesting is only 3 for the redundant VRUs. 4 VICE-CHAIR TRUJILLO DAVIS: Okay. 5 MR. HOLDERMAN: I wanted to make sure that 6 that was clear while I had the opportunity. 7 VICE-CHAIR TRUJILLO DAVIS: So in my time out 8 in the patch, we would run into problems with getting 9 pipe sometimes overseas and things like that. 10 Are these VRUs -- do you know if they're made 11 stateside, or are you looking at -- 12 MR. HOLDERMAN: They're -- they're both. So 13 the -- the manufactured components and the raw materials 14 often come from overseas or the states. They tend to be 15 assembled. So that's when we talk about manufacturing 16 capacity. They're assembled in Oklahoma, Texas, New 17 Mexico, various places. And then they're installed, 18 obviously, and maintained here on site. 19 And, I mean, when we talk to those out there, 20 raw materials are -- are probably the second largest. 21 The availability, though, of folks to actually put them 22 together and do the maintenance, the skilled labor 23 portion of it is where the biggest concerns seem to lie. 24 Because, I mean, in reality you're talking about 25 creating a significant demand over a two- to three-year

1923 1 period for compliance, and then the jobs will flatten 2 back out. You know what I mean? 3 And so being able to track people to go 4 through fairly rigorous training and commit to moving, 5 et cetera, and then not have a long-term assignment -- 6 or potential for a long-term position is -- is what 7 they're generally worried about. You will be able to 8 transfer some of those folks to -- to the field for 9 installation, but that's not a -- a guaranteed 10 assumption. 11 Because like I said, they're -- there's a 12 lot -- there's a fairly big difference between being in 13 the manufacturing facility and moving out to 14 (unintelligible and/or inaudible). 15 People are number one, raw materials are 16 number two, and then there seems to be adequate 17 manufacturing capacity if we're able -- I mean, that 18 would be the third one, manufacturing. 19 VICE-CHAIR TRUJILLO DAVIS: Thank you. My 20 next question was going to be how long you thought this 21 was going to be an issue before it resolved itself with 22 demand. So I think that's -- that's all I have on that 23 one. 24 And so my next -- my last question is for 25 Mr. Meyer.	1925 1 And then I have all these other -- I have to design that 2 flow rate of that combustor for a multitude of different 3 flow scenarios and upset conditions. 4 So it becomes, in my opinion, very difficult 5 with a system that's strictly a flare or a -- or a 6 combustor. VRUs are things we can do because we're not 7 talking about efficiency in terms of burning. But 8 flares, in my opinion, are -- and combustors are much 9 more difficult. 10 VICE-CHAIR TRUJILLO DAVIS: So just to help me 11 clarify it in my mind, but if you drop to the low end of 12 that range, in the current -- current setups, I guess, 13 right now -- if you drop to the low end of that range, 14 do you have to go to flare or a combustor? 15 MR. MEYER: If -- you're saying if the -- 16 you're asking if the pressure at the inlet of a VRU 17 drops? There's -- there's a lot of difficulties. 18 Right? It's not that the -- it's not that a flare turns 19 on and you divert it in that instance. 20 What is a hazard potentially is oxygen 21 entrainment through either thief hatches or, honestly, 22 into the -- through the pipe themselves. The suction 23 right at the VRU is under great negative pressure. So 24 there's a potential for atmospheric air to get in, 25 right, unless you properly design that right.
1924 1 So thank you, all, for your patience. 2 You were discussing the optimal operation for 3 a VRU, and we discussed in previous conversations the 4 higher end of that range. 5 But I was wondering if there's a low end. So 6 is there a bottom range where the VRU becomes 7 ineffective? 8 MR. MEYER: Well, there's a lot of ways to 9 handle that. You can handle -- if I have to have an 10 oversized VRU for my closed vent system certification 11 perspective, right, there's ways you can offset it with 12 makeup gas. That's usually the number way -- one way of 13 doing it. So that way I can have a continuous gas feed 14 slipstream coming from the upstream facility to the 15 suction side of a VRU. Right? 16 And the gas just kind of gets recirculated. 17 Right? So adding these circulation loops is a good way 18 of controlling it. VFDs, variable frequency drive VRUs, 19 are good. Those are much more expensive. 20 So there's ways of handling the turndown 21 with -- with VRUs I would say a lot better than a 22 combustor or a flare. Combustor or flare, you know, if 23 we're talking about tanks, right, the bottom end is, you 24 know, one to two ounces, but I have to keep that tank to 25 below 16, 14 ounces. So that's my inlet pressure range.	1926 1 So there are a lot of -- there are a lot of 2 issues with dealing with that. And then you -- there -- 3 ultimately, you know, VRUs can go in a recirculation 4 mode, like I said, where they take the exhaust from the 5 area and put it right back at the inlet. Well, in that 6 case the temperature of the gas tends to rise, rise, 7 rise, until this thing shuts down on temperature. 8 So there's -- there's -- there can be issues. 9 There are more facility upgrades that are needed than 10 just the VRU. A lot of the context of -- like a lot of 11 things Valor has done with this -- this testimony is to 12 kind of shed a little bit of light. Yes, a combustor 13 costs this, but there's all these other facility 14 considerations you need to look at that could increase 15 the cost. 16 I'm not sure if I answered your question. 17 Sorry. 18 VICE-CHAIR TRUJILLO DAVIS: No. You're giving 19 me a good picture of what's going on here. 20 So as long as the thief hatches stay closed 21 and oxygen is not being introduced from some other 22 mechanism, your V -- and the pressure doesn't get 23 above -- or stays around one or two tons, you should be 24 able to operate that VRU 90, 80 percent of the time? 25 Okay?

1927 1 MR. MEYER: I think there -- we're, you know, 2 doing testing right now. I'm doing testing where 3 there's, you know -- we're tracking that a little bit 4 more diligently than maybe has been done in the past. 5 However, there is the occasional power outage that now 6 you're -- now your VRU is down and you have this tank 7 full of oxygen from the air, because it brought in 8 oxygen at night. Now how do you get rid of that? There 9 is -- you have to, you know, be careful about it. 10 So keeping -- staying in operation is actually 11 not only critical from a business perspective of keeping 12 the molecules flowing for sales, but also, if you get in 13 an upset condition, what do you do in designing a 14 facility so that you can actually get back up and 15 running quickly. 16 So in terms of 90 percent of the time, to your 17 question, I think it's a little too soon to answer that, 18 because of, one, VR -- not all VRUs are the same, not 19 all systems are designed the same. You know, tanks, for 20 example, can have a rating of 16 ounces or four. Right? 21 I think I put this in my testimony, where a lot of the 22 issues we're seeing is a tank -- you know, folks are 23 trying to control emissions, but the tanks are only 24 rated for four ounces, and that's not a lot. 25 Just to give everyone some context of what	1929 1 HEARING OFFICER ORTH: Let's come back from 2 the break, please. 3 We are back after a short break for the five 4 o'clock public comment session in EIB 21-27. 5 Public comment is taken under oath under the 6 Board rules, limited to five minutes, and is taken by 7 audio rather than video. 8 We had one person reach out through e-mail, 9 and I will call on him first. That's Arvin Trujillo. 10 And now I have someone reaching out through 11 chat, which is Robert McIntyre. 12 In the event you're on the platform and wish 13 to give public comment and haven't given it before, 14 please do reach out through chat. 15 So, Mr. Trujillo, I'm unmuting you. 16 Can you hear me? 17 MR. TRUJILLO: Yes, I can. 18 HEARING OFFICER ORTH: Oh, good. And I'm 19 hearing your voice quite clearly. 20 If you would please spell your name. 21 MR. TRUJILLO: Arvin, A-R-V-I-N, Trujillo, 22 T-R-U-J-I-L-L-O. 23 HEARING OFFICER ORTH: Thank you. 24 And if you would raise your right hand. 25 Do you swear or affirm to tell the truth?
1928 1 that means, if you were to take a gauge and blow into 2 it, like you're blowing an air balloon up -- a balloon 3 up, you can blow 36 ounces. So four ounces is nothing. 4 So it's very difficult to control tank vapors. 5 You know, in -- and, of course, this is all 6 compounded by availability of the right equipment. 7 Right? So -- in terms of how often these things would 8 run or could run, I think it could be done depending on 9 the facility and what's there already. That's all I can 10 really say about that. 11 VICE-CHAIR TRUJILLO DAVIS: Okay. Thank you 12 for that. I appreciate you all answering my questions. 13 MR. MEYER: Okay. 14 VICE-CHAIR TRUJILLO DAVIS: I don't have any 15 more. 16 HEARING OFFICER ORTH: All right. Thank you, 17 Vice-Chair. 18 We do need a break, and we do need 15 minutes. 19 So what I'd like to do is come back at 4:00 -- sorry -- 20 5:10, and I will get on the platform just to tell folks 21 present for the five o'clock public comment session that 22 we're going to start at 5:10. 23 Come back at 5:10, please. 24 (Proceedings in recess from 4:57 p.m. to 25 5:10 p.m.)	1930 1 MR. TRUJILLO: Yes, I do. 2 HEARING OFFICER ORTH: Thank you. 3 ARVIN TRUJILLO 4 having been first duly sworn or affirmed, gave 5 public comment as follows: 6 PUBLIC COMMENT 7 HEARING OFFICER ORTH: I'm going to start your 8 five minutes now. 9 MR. TRUJILLO: Thank you very much. 10 And again thank you to Members of the New 11 Mexico Environmental Improvement Board. 12 My name is Arvin Trujillo, and I'm the CEO for 13 Four Corners Economic Development. Four Corners 14 Economic Development is a nonprofit, public-private 15 economic development organization located in Farmington, 16 New Mexico. 17 And what I want to comment on is the ozone 18 rule and how it impacts us. And basically, the oil and 19 gas industry here in San Juan County is one of our major 20 economic drivers, and has been so for the past 60 years, 21 along with the coal industry here in the county. It not 22 only has been a driver here in San Juan County, but 23 really in the four states region here, collectively 24 known as the Four Corners region. 25 These industries have provided taxes for local

1931 1 government in schools. They've been good careers for 2 local residents. They've allowed for royalty payments 3 for our tribal and nontribal land users. And they've 4 also provided charitable and community support for a 5 number of our surrounding counties here in San Juan 6 County. 7 And looking at the impacts right now, in 2010 8 the population in San Juan County was 130,044, but in 9 the recent count in 2020, our population has declined to 10 121,661, which is approximately a 6.4 percent decline. 11 And from a jobs and labor standpoint, San Juan 12 County statistically has shown that through the oil and 13 gas industry approximately 1,400 jobs have been realized 14 through the industry, labor income at about 887 million, 15 adding about 2.4 billion to the economy. But this has 16 very much declined, I think, in San Juan County. 17 We don't have a feel for the numbers yet. But 18 just to give you an idea, during most of 2020 and up 19 through the second quarter of 2021, there were no 20 drilling rigs active here in San Juan County. And in 21 fact, production has very slightly begun. We've got 22 four active drill rigs at this point. And again 23 we're -- many of the companies are working on how they 24 can support that overall effort. 25 And so again looking at our concerns here and	1933 1 next five years they're estimating at least 3.8 billion 2 in costs to stay in compliance. 3 Our concerns with this is the fact that this 4 cost will curtail further development here in San Juan 5 County. And we're right now in the processes of 6 determining how do we transition. So looking at the 7 regulations, I would ask that you take the local 8 economies into consideration as you begin to look at 9 this. Oil and gas has been a foundation for New Mexico 10 economy and has been a foundation for our state budget 11 and public schools. 12 We are looking at how we can transition 13 through this effort. I think working with the oil and 14 gas producers will help us find ways to transition 15 effectively, but still keep our economic endeavors 16 moving and growth developing in our areas. 17 So again I'm looking at the Board here to take 18 this into consideration. We're challenged here in San 19 Juan County. We're looking at ways to develop and 20 mitigate the issues. We're looking at new ways to 21 develop our economy and diversify our economy. 22 But again we've got to work through this 23 transition, and the only way we can do that is with your 24 help, looking at these rules and making sure you take 25 into consideration our economic standing and how
1932 1 my concern heading up Four Corners Economic Development, 2 as I indicated, oil and natural gas is one of our 3 economic drivers here in the county. It provides direct 4 jobs, which are also a source of indirect jobs through 5 the support and equipment companies here in the county. 6 The labor revenue generated from these jobs 7 support service and retail-related jobs also in the 8 region. And Farmington is a regional hub for the four 9 states area. And much of that was built on the coal, as 10 well as the oil and gas industries. 11 The concern here is looking at our small 12 businesses. Many of those businesses support oil and 13 gas development. But -- and again through this 14 challenging period, many of them have seen a decline, 15 but many of them have shown a resilience, looking at new 16 markets, as well as developing new value-added products 17 to keep their businesses operated and running. 18 My further concern is the fact that -- and I 19 read the recent letter from the state Legislative 20 Finance Committee looking at this particular rule. And 21 the study that was done for the committee indicated that 22 approximately 97.3 percent of existing oil and natural 23 gas wells would be affected in New Mexico. And this -- 24 this rule, the ozone rule, would cost operators 25 3.3 billion the first year of compliance, and for the	1934 1 these -- this industry impacts our particular area and 2 region. 3 Thank you very much. 4 HEARING OFFICER ORTH: Thank you, 5 Mr. Trujillo. 6 Let's see. So, in fact, the gentleman I 7 thought was indicating a desire to offer public comment 8 after Mr. Trujillo was not indicating that. 9 Is there anyone else on the platform who would 10 be interested in offering comment at this time? Please 11 reach out in the chat. 12 In the event you have any trouble with the 13 chat function in any of these sessions, please text 14 (505) 660-4305. That's Pam Jones, the administrator. 15 And there are -- let's see -- 12 more 16 opportunities for public comment, at 9:00, 1:00 and 5:00 17 every day between now and Friday. 18 All right. So let's return to the technical 19 case. 20 Can we get Mr. Holderman, Ms. Kuehn and 21 Mr. Meyer back on the screen. 22 23 24 25

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1 ELIZABETH BISBEY-KUEHN, BRIAN PALMER, 2 DANNY HOLDERMAN and ADAM MEYER 3 (Relating to Topic Order 26) 4 having been first duly sworn or affirmed, were 5 examined and testified further as follows: 6 EXAMINATION (Continued) 7 BY THE BOARD: 8 HEARING OFFICER ORTH: Thank you. 9 When we broke -- let's see. The Chair and 10 Vice-Chair had presented their questions. 11 Member Cates, do you have questions of this 12 panel? 13 MEMBER CATES: Madam Hearing Officer, I just 14 wanted to say I appreciate the consolidated format here. 15 I think it helps move things along, and I -- so I 16 appreciate that. 17 And that's it. I don't have any questions. 18 Thank you. 19 HEARING OFFICER ORTH: Thank you. 20 Member Bitzer? 21 MEMBER BITZER: I think it was Mr. Meyer was 22 talking about -- and our Chair Suina had mentioned 23 the -- her interest was piqued by the hundred-year event 24 analogy. 25 And I'm wondering if -- you got a variety of	1 highlight two of them. 2 Miscellaneous scrubbers and vessels throughout 3 the facility that are used to kind of knock out liquids 4 out of a gas stream, sometimes those are routed to a 5 tank battery. Right? And when those kind go off, well, 6 that's a higher -- that's a -- maybe a lower Btu value 7 liquid, more volatile, a lot more light ends, light end, 8 you know, carbons, and it can momentarily disrupt the -- 9 that continuous vapor composition. Right? 10 Another thing is truck vapor capture. 11 Actually, that's probably the biggest one if I were to 12 say. So if you have -- are required to capture vapors 13 during a truck load-out, the -- we don't know what the 14 composition of the gas in those trucks are when they 15 roll up on site. And sometimes we have a good idea, but 16 sometimes they could be all over the place. 17 And I'm -- I was very pleased when we kind of 18 moved away from water truck vapor capture, because those 19 can inject a huge slug of air into your tanks if you're 20 trying to capture. Right? And that disrupts 21 everything. 22 I would say the other thing to think about, 23 too, is that these wells are -- you know, the vapor 24 composition of the tanks is really a reflection of 25 what's coming in from the wells. If the wells are
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1 things that could cause negative externalities here. I 2 was wondering if everything's going along smoothly and 3 all of a sudden the content of what you're extracting 4 changes substantially, does that have the potential to 5 throw you all for a loop? 6 In the old days, I imagine it was just pure 7 unsmelly natural gas and you shipped it off to Texas to 8 put some sulfur in it, shipped it back so we wouldn't 9 freeze to death, in Taos in a -- in a cold winter. But 10 I get it -- I get it now that it's a little more 11 involved than that, and I'm not sure it wouldn't change 12 over time. 13 Does -- does that happen suddenly sometimes? 14 MR. MEYER: So I think, you know, when I talk 15 about composition and how that is fluctuating, right, 16 it's a -- and let's just say the vapor composition in a 17 tank's -- a tank battery. You know, if you're producing 18 out of the separation equipment, right, if you're 19 flowing continuously through -- you know, through a 20 heater treater and separator, there's a vapor recovery 21 tower, you know, there's a good chance that the 22 composition is fluctuating, but within reason, it's 23 foreseeable. 24 Where it becomes tricky are kind of two -- 25 well, there's several circumstances, but I'll just	1 flowing nice and steady, then production and pressure in 2 the tanks is nice and steady. But the wells don't 3 behave like that. There's slugging, there's surges. 4 And, you know, a separator that, you know, was 5 doing just fine, producing an instantaneous rate of 100 6 gallons per minute consecutively, and now all of a 7 sudden that spikes up to 200 gallons a minute, it's not 8 stewing this proper separation as it would. It's not 9 that it's not getting out the gas. It's just that the 10 liquid composition is different, you know. 11 So these systems are not steady, by any means. 12 And that's the problem, is that they're not steady. 13 MEMBER BITZER: That's all I have, Madam 14 Chair. 15 HEARING OFFICER ORTH: Thank you. 16 Member Garcia? 17 MEMBER GARCIA: No questions. Thank you. 18 HEARING OFFICER ORTH: Thank you. 19 And Member Honker. 20 MEMBER HONKER: No questions. Thank you. 21 HEARING OFFICER ORTH: All right. Thank you. 22 Did any of that questioning prompt follow-up 23 by the witnesses' counsel? 24 I don't see anyone turning on their cameras. 25 Thank you, all, witnesses, Ms. Kuehn,

1939 1 Mr. Holderman, Mr. Meyer. 2 MR. MEYER: Thank you. 3 MR. HOLDERMAN: Thank you. 4 HEARING OFFICER ORTH: Ms. Katz, are we going 5 now to topic 116? 6 MS. KATZ: No, Madam Hearing Officer. That's 7 the leak detection and repair that is scheduled at this 8 point for Wednesday. 9 HEARING OFFICER ORTH: That's right. 10 MS. KATZ: So if -- so the next one would be 11 Section 117. I don't know if the other parties involved 12 in that section, natural gas well liquid unloading, are 13 available to move to that section. 14 HEARING OFFICER ORTH: Ms. Paranhos -- let me 15 see if she's on the platform. 16 I don't see her on the platform. 17 That was specifically a section she said they 18 had a witness, for the liquids unloading. 19 MS. KATZ: We could -- we could move to -- I 20 believe Mr. Hiser said that -- that his -- their 21 dehydrator -- glycol dehydrator person wasn't available 22 this evening. 23 We could move to heaters. That's an option. 24 MR. HISER: Madam Hearing Officer, we do have 25 our heater witness available with us right now.	1941 1 MS. KATZ: Please give -- please summarize the 2 equipment that is the subject of this section of the 3 rule. 4 MS. BISBEY-KUEHN: Great. Thank you. 5 This section we're referring to tonight is 6 Section 119, covering heaters. Natural gas-fired 7 heaters are used throughout the oil and gas sector for 8 the -- a variety of reasons, including preventing 9 equipment from freezing and being blocked by the 10 formation of ice or hydrates, to improve the separation 11 of well products into oil, water and gas, and in certain 12 types of process equipment such as glycol dehydrators. 13 MS. KATZ: Can you discuss the control options 14 for controlling emissions from heaters? 15 MS. BISBEY-KUEHN: Yes. So NOx emissions are 16 the primary pollutant that we're targeting with the 17 heater requirements, and NOx emissions from heaters may 18 be controlled through combustion modifications that 19 reduce the formation of NOx. This is primarily by 20 reducing the combustion temperature and limiting thermal 21 NOx emissions, add-on controls to control NOx emissions 22 in the exhaust stack, and then also a combination of 23 combustion modifications and add-on controls. 24 In addition, many regulatory -- federal 25 regulatory programs require periodic equipment tune-ups
1940 1 HEARING OFFICER ORTH: Terrific. Let's do 2 that, then. Thank you, Mr. Hiser. 3 MS. KATZ: Okay. So the Department calls 4 Ms. Kuehn and Mr. Palmer for heaters. 5 HEARING OFFICER ORTH: Okay. Thank you. 6 ELIZABETH BISBEY-KUEHN and BRIAN PALMER 7 (Relating to Topic Order 30) 8 having been first duly sworn or affirmed, were 9 examined and testified as follows: 10 HEARING OFFICER ORTH: And, Ms. Kuehn, will 11 you be driving the slides? 12 MS. BISBEY-KUEHN: (Nods head.) 13 HEARING OFFICER ORTH: Okay. 14 There you go. 15 MS. KATZ: So -- and for the Board's -- the 16 Board to follow, this is Section 20.2.50.119 of the 17 rule, and the testimony begin -- is in -- is on NMED 18 Exhibit 32, beginning on page 105, and NMED Rebuttal 19 Exhibit 1, page 73 through 76. 20 And so Ms. Kuehn and Mr. Palmer have both 21 adopted their testimony, and I don't believe there are 22 any errors that need to be corrected. So we can move 23 forward with Ms. Kuehn. 24 DIRECT EXAMINATION 25 BY MS. KATZ:	1942 1 and a requirement to operate those units following good 2 combustion practices to keep heaters operating at 3 maximum efficiency in order to reduce emissions. In 4 addition, good combustion practices are important for 5 reducing or controlling CO and VOC emissions. 6 MS. KATZ: And can you discuss the emission 7 standards that apply to heaters under the rule? 8 MS. BISBEY-KUEHN: Yes. The proposed rule 9 limits existing and new natural gas-fired heaters that 10 emit or that have -- excuse me -- a capacity -- 11 throughput capacity of 20 million Btu per hour to 30 12 million ppmvd of NOx at 3 percent oxygen and 400 ppmvd 13 carbon monoxide at 3 percent oxygen. 14 Existing heaters are required to comply with 15 these standards no later than three years after the 16 effective date of this part, and new heaters must comply 17 upon startup. 18 MS. KATZ: Thank you. 19 And, Mr. Palmer, can you discuss the basis for 20 where the proposed requirements for heaters came from? 21 MR. PALMER: Um-hum. Excuse me. Yeah. The 22 NOx and CO limits are based on limits adopted by -- based 23 on our review of rules in Pennsylvania, Texas and 24 California for natural gas-fired combustion units. The 25 NOx limits are the same as in Pennsylvania GP-5, General

1943 1 Permit 5, requirements for natural gas-fired combustion 2 units, and that's specific to oil and gas industry. 3 The CO limits are the same as Texas' 4 requirements for combustion sources, are on the Texas 5 Administrative Code, Title 30, Part 1, Chapter 117; and 6 also South Coast Air Quality Management District Rule 7 1146, which is -- covers emissions of oxides of nitrogen 8 from industrial, institutional, commercial boilers, 9 steam generators and process heaters. 10 MS. KATZ: And, Mr. Palmer, can you discuss 11 the estimated emissions reductions and costs for this 12 section? 13 MR. PALMER: I can. The overall emission 14 reduction is estimated to be 176 tons of NOx, and that's 15 based on allowable emissions in the NMED database as a 16 result of the rule. The estimated cost effectiveness is 17 \$3,010 per ton of NOx based on the use of low NOx burners 18 to control emissions. 19 And the cost effectiveness is based on a total 20 annualized cost of \$15,553 per year for a low NOx burner 21 as calculated from information in the USEPA's 22 Alternative Control Techniques Document covering NOx 23 emissions from process heaters, which is NMED 24 Exhibit 53. 25 MS. KATZ: Thank you.	1945 1 framework that we have discussed in other sections. 2 So we have applicability under Paragraph A, 3 which identifies that natural gas-fired heaters with a 4 heat input equal to or greater than 20 million Btu per 5 hour, including heater treaters and other types of 6 heaters, are -- and located at well sites, tank 7 batteries, gathering and boosting stations, natural gas 8 processing plants and transmission compressor stations 9 are subject to the requirements of this section. 10 And Paragraph B contains the emission 11 standards for these types of -- for heaters. And Table 12 1 explains what those emission standards are for NOx and 13 CO. And so you can see that heaters constructed before 14 the effective date are subject to a 30 and 400 ppmvd 15 emissions limits, and also heaters constructed after the 16 effective date are -- are subject to those identical 17 emission standards. 18 In Paragraph B.(2), you can see the revision 19 to the extension to the compliance timeline for those 20 heaters from one to three years. You can see the 21 striking of the requirement to install an equipment 22 monitoring tag. 23 Paragraph C, the monitoring requirements, 24 contain the types of testing that an owner or operator 25 must do in order to demonstrate compliance with the
1944 1 And, Ms. Kuehn, can you discuss comments that 2 were received and go through the rule language on 3 proposed revisions to the rule? 4 MS. BISBEY-KUEHN: Yes. I will. And this 5 slide provides an overview of those comments that we 6 received from stakeholders. 7 NMOGA proposed to modify the CO emission limit 8 for both new and existing heaters from 300 ppmv to 400 9 for all units. The Department agreed that there is a 10 relationship between NOx and CO emissions and that 11 regulatory programs in California and Texas currently 12 require CO emissions to remain below 400 ppm in certain 13 nonattainment areas, and so we agreed to that request. 14 NMOGA addition -- also proposed three years 15 compliance timelines for existing heaters. We did agree 16 to an extension of the compliance deadline for existing 17 heaters to three years. 18 IPANM proposed to raise the applicability 19 threshold for heaters from 10 to -- 10 million Btu per 20 hour to 50 million Btu per hour. The Department did not 21 agree to that request, but did agree to increase the 22 applicability threshold to 20 million Btu per hour, 23 which we believe addresses the comments from IPANM. 24 So this is the rule as it's currently before 25 you today. This section of the rule follows the	1946 1 emission standards that are established in this part. 2 So there is a requirement to conduct an emission test 3 for NOx and CO within 180 days of the compliance date 4 specified in the -- in the two compliance deadlines that 5 are found in Paragraphs B.(2) and (3), and then to 6 conduct a test at least two years -- once every two 7 years thereafter. 8 Owners and operators are also required to 9 inspect and maintain the unit in accordance with 10 manufacturer specifications, and specifically to conduct 11 specific types of inspections of the burner and cleaning 12 or replacing components in order to ensure the unit is 13 properly operated. 14 In addition, they're required to inspect the 15 flame pattern and adjust necessary to ensure proper 16 combustion, inspect the AFR controller if it's present, 17 optimize the emissions of CO consistent with the NOx 18 requirement, and then measure concentrations of CO in 19 order to fine-tune that -- that good combustion. 20 This Paragraph (2) identifies the types of 21 testing requirements that are in place. It establishes 22 that the number of tests that must be conducted for an 23 annual or biannual test. It establishes the duration of 24 the test, and the reference methods or -- that may be 25 used in addition to the option to conduct the test with

1947 1 a portable analyzer. 2 So we'll continue with the monitoring 3 requirements. This -- the Paragraph D establishes the 4 load that the unit must be tested at. Paragraph (3) 5 establishes if there's a deviation, how that deviation 6 from the procedures in the testing -- how an alternative 7 procedure may be requested by the Department. Paragraph 8 (4) establishes the type of information that must be 9 collected during the monitoring event. 10 And the recordkeeping requirements are 11 established in Paragraph D. These were again minor 12 clerical and editorial changes that didn't change the 13 intent of the rule, but clarified language for -- for 14 operators and the Department. 15 And then Paragraph E concludes this 16 presentation. There was no comments made to the 17 reporting requirements. 18 MS. KATZ: Thank you. 19 And that is all for the Department's 20 presentation on the heaters section. 21 HEARING OFFICER ORTH: Thank you, Ms. Katz. 22 Are there any parties who would have 23 questions? 24 I see you on the screen, Mr. Hiser. 25 MR. HISER: No questions. Sorry.	1949 1 exhibited as found -- already been admitted and is found 2 at Exhibit 43, correct? 3 A. That's correct. Yes. 4 Q. Okay. 5 Did NMOGA request an increase in the CO limit 6 to 400 ppm, as we just heard from Ms. Kuehn? 7 A. Yes, they did. 8 Q. And with that change, does NMOGA find that 9 this provision is fully acceptable to its members? 10 A. I believe so. It's definitely an improvement 11 above the originally proposed levels. 12 Q. And we requested that because we could have 13 better ability to maintain the NOx limits with a slightly 14 more relaxed CO limit; is that correct? 15 A. That's correct. Similar to my earlier 16 testimony on CO, NOx, inverse relationship, as you're 17 decreasing your NOx, your CO is going to increase. 18 MR. HISER: Thank you very much, Mr. Lisowski. 19 Madam Hearing Officer, that's all we have. 20 HEARING OFFICER ORTH: All right. Thank you. 21 Let's see. Ms. Kuehn, if you would rejoin us. 22 I see Mr. Palmer, Mr. Lisowski. I'm going to -- oh, I 23 forgot to ask. 24 Is there a party with a question of 25 Mr. Lisowski?
1948 1 HEARING OFFICER ORTH: Okay. 2 Is there any party who has a question? 3 I believe the only other witness we will hear 4 from will be Mr. Lisowski. 5 MR. HISER: I thought that we were going to 6 put the witnesses on and then they're -- oh, I guess 7 we're doing cross-exam first. So I will wait until 8 then. 9 HEARING OFFICER ORTH: Yeah. That -- I asked 10 for that, and you were the only person on the screen. 11 So I think perhaps we'll move to Mr. Lisowski. 12 MR. HISER: He should still be with us. 13 MR. LISOWSKI: I'm still here, you haven't 14 shook me yet. 15 JUSTIN LISOWSKI 16 (Relating to Topic Order 30) 17 having been first duly sworn or affirmed, was 18 examined and testified as follows: 19 DIRECT EXAMINATION 20 BY MR. HISER: 21 Q. Mr. Lisowski, could you spell your name for 22 the court reporter? 23 A. You bet. Justin, same spelling, Lisowski, 24 L-I-S-O-W-S-K-I. 25 Q. And your testimony in this has already been	1950 1 Nope. 2 All right. We turn to the Board for their 3 questions. 4 While I'm doing that, if you're an attendee on 5 this platform and you have a question, please reach out 6 through the chat. 7 Madam Chair, all three witnesses are available 8 for your questioning. 9 CHAIR SUINA: Thank you, Madam Hearing 10 Officer. 11 And thank you to the witnesses. 12 I don't have any questions right now. Thank 13 you. 14 HEARING OFFICER ORTH: All right. Thank you. 15 Vice-Chair Trujillo Davis. 16 VICE-CHAIR TRUJILLO DAVIS: Thank you. I 17 don't have any questions either. 18 HEARING OFFICER ORTH: Thank you. 19 Member Cates? 20 MEMBER CATES: No questions here. Thank you. 21 HEARING OFFICER ORTH: All right. 22 Member Bitzer? 23 MEMBER BITZER: No questions. Thank you. 24 HEARING OFFICER ORTH: All right. 25 Member Garcia?

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1 MEMBER GARCIA: No questions. Thank you. 2 HEARING OFFICER ORTH: Thank you. 3 And Member Honker. 4 MEMBER HONKER: No questions. Thank you. 5 HEARING OFFICER ORTH: Oh, terrific. All 6 right. 7 Well, thank you, witnesses. 8 I believe we just managed to finish 9 Section 119. 10 Would we be able to move into Section 120, 11 that's hydrocarbon liquid transfers? 12 MS. KATZ: I am not sure about that. 13 MR. HISER: Madam Hearing Officer, similar to 14 Ms. Katz, we may have now run beyond where we have 15 prefiled materials. 16 HEARING OFFICER ORTH: Okay. All right. 17 MS. KATZ: If -- if parties have materials 18 available, I'm willing to waive the day before 19 requirement if that would help. But, I mean, of course, 20 it's up to everybody else. 21 HEARING OFFICER ORTH: Right. 22 MR. HISER: Let me check with Mr. Smitherman 23 about how prepared he is on this topic. 24 HEARING OFFICER ORTH: All right. 25 MR. JANOE: This is Scott Janoe on behalf of	1 testimony at least on the record so that we have got a 2 head start for when we take it back up? 3 MS. KATZ: I don't see any reason. I'm just 4 double-checking here. 5 Getting the thumbs up from Liz. 6 HEARING OFFICER ORTH: Great. 7 Mr. Hiser? 8 MR. HISER: Yeah. We're prepared at least 9 with Mr. Smitherman, and I think Mr. Meyer is, as well. 10 I'm checking with him now. 11 HEARING OFFICER ORTH: All right. 12 So let's get started, Ms. Katz, see how far we 13 get. 14 MS. KATZ: Let me just -- I'm just getting 15 some stuff pulled up here. Okay. 16 ELIZABETH BISBEY-KUEHN and BRIAN PALMER 17 (Relating to Topic Order 31) 18 having been first duly sworn or affirmed, was 19 examined and testified as follows: 20 DIRECT EXAMINATION 21 BY MS. KATZ: 22 MS. KATZ: Ms. Kuehn needs sharing 23 capabilities. 24 And for the Board, this is 25 Section 20.2.50.120, hydrocarbon liquid transfers, and
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1 Oxy. 2 To the extent if the state were prepared to 3 go, Oxy's witness is prepared to go on 120. I would at 4 least want to knock that out if we could. 5 HEARING OFFICER ORTH: I'm glad. 6 We'll wait a moment for Mr. Hiser. 7 MR. HISER: I think you can certainly proceed, 8 and we can follow on, or if I can get ahold of him, we 9 can follow right after, one or the other. 10 HEARING OFFICER ORTH: And would we be -- 11 MS. KATZ: And then -- 12 HEARING OFFICER ORTH: -- hearing from -- I'm 13 sorry. 14 Would we be hearing from CDG with Mr. Kim? Or 15 am I reading this correctly? 16 MS. KATZ: I was just going to ask the same 17 thing. Yes. CDG does have a witness listed for this. 18 I don't know if -- 19 HEARING OFFICER ORTH: I believe I saw Mr. Kim 20 here. Let's see. 21 Okay. I don't believe Mr. Kim is on the 22 platform anymore. 23 All right. Is there any reason, though, not 24 to at least get the Department's testimony and 25 Mr. Janoe's testimony and potentially Mr. Hiser's	1 the testimony appears on -- as NMED Exhibit 32, 2 beginning on page 110, and NMED Exhibit 1, beginning on 3 page 76. 4 And Ms. Kuehn and Mr. Palmer have adopted 5 their testimony, and I don't believe there is any 6 corrections to the hydrocarbon liquid transfers 7 testimony. 8 So, Ms. Kuehn, can you please begin with the 9 discussion of the process that is the subject of this 10 section and the control options. 11 MS. BISBEY-KUEHN: Yes. 12 And is this sharing okay? Can you see that 13 okay? Okay. Great. 14 Okay. Good evening. 15 Moving right along, we're discussing 16 Section 120, it's before you, which covers hydrocarbon 17 liquid transfers. 18 Hydrocarbon liquid transfers involve moving 19 hydrocarbon liquid from a storage tank to a transfer 20 vessel, which may consist of a tanker truck or a 21 railcar. During the transfer, VOC containing vapor from 22 the previous contents of the transfer vessel will be 23 vented as that vessel is filled. 24 There are a number of control options 25 available for minimizing the VOC emissions from this

1955 1 type of operation, including routing those emissions 2 from the storage vessel through an enclosed system to a 3 process where those emissions are either recycled, 4 recovered or reused in the process, for example, by 5 installing a vapor recovery unit that recovers vapors 6 from the vessel for reuse in the process or for 7 beneficial use on site, or routing emissions from the 8 storage develops to a combustion device. 9 In practice, many operators use a single VRU 10 system or combustion device to control emissions from 11 both the hydrocarbon liquid transfers and the storage 12 vessels. 13 Emissions are controlled using vapor -- may 14 also be controlled using vapor balance service, where 15 vapors from the truck or the railcar are routed back to 16 the storage vessel as those liquids in the storage 17 vessel are emptied into the receiving truck or railcar. 18 Vapor balancing requires a pipe or a hose connected 19 between the storage vessel and the tanker truck or 20 railcar prior to the transfer. 21 In addition, bottom loading and submerged fill 22 are additional operational or management practices that 23 can reduce the amount of VOCs that are generated from 24 those transfers. 25 MS. KATZ: Can you discuss -- give an overview	1957 1 for the rule? Thank you. 2 MR. PALMER: Yes. So the control and 3 operational requirements are based on requirements in 4 Colorado Regulation 7, Pennsylvania General Permit 5 and 5 General Permit 5A, also in Utah's Rule R307-504, which 6 is specific to tank truck loading, and then Wyoming's 7 Presumptive Best Available Control Technology for oil 8 and gas truck loading operations. 9 Colorado Reg 7 requires control of load-out 10 emissions from controlled storage tanks to transport 11 vehicles by using submerged fill and a vapor collection 12 and return system or by using air pollution control 13 equipment. 14 Pennsylvania General Permit 5 requires the use 15 of a vapor balancing system when removing liquids from a 16 storage vessel. 17 Utah's rule requires using a vapor capture 18 line connected to a control device with a 95 percent 19 destruction efficiency. 20 And Wyoming's permitting guidance requires a 21 vapor capture line with a collection efficiency of 22 70 percent connected to a control device with a 23 destruction efficiency of at least 98 percent. 24 Slide. 25 So we estimated overall emission reductions
1956 1 of the emission standards that apply to this operations? 2 MS. BISBEY-KUEHN: Yes. Owners and operators 3 are required to control VOC emissions by at least 4 95 percent via vapor balance, vapor recovery or a 5 control device. 6 And if using vapor balance, they must load the 7 displaced vapor back to the vessel being emptied, make 8 inspections of certain equipment to check for leaks, 9 check the hydrocarbon vapor lines and connections for 10 prior -- for proper connections before commencing the 11 loading operation, and operate the transfer equipment at 12 a pressure that is less than the pressure relief valve 13 setting of the receiving vehicle or storage vessel. 14 In addition, operators are required to 15 maintain those connectors and couplers and make -- 16 ensure they're in a leak-free condition. In addition, 17 they must support certain pieces of equipment on drip 18 trays to reduce leakage. And they must clean and 19 dispose of leaks in a manner compliant with state law. 20 MS. KATZ: Thank you. 21 And turning to Mr. Palmer. 22 Mr. Palmer, can you please discuss the basis 23 for the proposed requirements for hydrocarbon liquids 24 unloading -- sorry -- liquid transfers and the estimated 25 emissions reductions and costs for that -- for that --	1958 1 from this operation of 4,263 tons per year, and that's 2 based on allowable VOCs from hydrocarbon liquid transfer 3 operations in the permitting database. The estimated 4 cost effectiveness would be \$536 per ton of VOC using 5 combustors to control emissions. And the cost 6 effectiveness is based on total annualized costs of 7 \$24,710 per year for a combustor. 8 And one thing I'd like to point out about the 9 estimated costs is that if we had a facility that had 10 storage tanks and was going to install a control device 11 to meet the requirements for storage tanks, that will be 12 discussed later in the week, we didn't have a separate 13 control device for just the loading operations. 14 So the cost effectiveness for this operation 15 is relatively low, because you're already controlling 16 the storage tanks. So we actually get more reductions 17 from fewer facilities that have cost. So that's why the 18 cost effectiveness number looks quite attractive, you 19 might -- so that's all I have. 20 MS. KATZ: Thank you, Mr. Palmer. 21 Ms. Kuehn, can you please summarize -- go 22 through the provisions of the rule and discuss some of 23 the revisions that were made. 24 MS. BISBEY-KUEHN: Yes. So similar to the 25 other sections, we're following the same framework that

1959 1 we have for other part -- sections of the rule. 2 The applicability section covers not only the 3 types of operations that are subject, but establishes 4 some different applicability thresholds that keep 5 facilities out of the requirements of this section. 6 Hydrocarbon liquid transfers that are located at 7 existing facilities must comply with this requirement 8 within two years of the effective date of this part. 9 New hydrocarbon liquid transfers must comply with the 10 requirements upon startup. 11 We did receive several comments about the fact 12 that there are situations where company -- facilities 13 are connected via an oil pipeline where there may be 14 very infrequent loading operations that result in very 15 minimal emissions, and the Department responded to those 16 comments by establishing a couple of different 17 applicability waivers from this -- from this section. 18 The first one is exempting facilities that are 19 connected to an oil field pipeline from the requirements 20 of this part. Those should very rarely if -- very 21 rarely use this type of loading that we're intending -- 22 or this type of transfer that we're intending to cover 23 here. 24 And then the second exemption is for those 25 facilities that load up hydrocarbon liquids to trucks	1961 1 those vapors may be returned to any of the storage 2 vessels that are manifolded together. 3 We've also clarified under the emission 4 standards that they must inspect those connectors and 5 pipes to ensure that they're -- their leak -- that 6 they're inspecting for leaks. And then also clarifying 7 that we're checking for hydrocarbon liquids in the vapor 8 line connections for proper connections. 9 We've struck the requirement for bottom 10 loading or submerged fill. Those are standard practices 11 that is all -- they're already undertaken by most 12 operators. It's not necessary for us to explicitly 13 require that in this -- in this section. 14 And then we've added other minor -- minor 15 editorials, revisions that help clear up the language in 16 Paragraphs (3) and (4). 17 Under the monitoring provisions, we've made 18 important adjustments here based on comments from 19 stakeholders. We've -- we're requiring a monthly 20 inspection of the -- of the equipment at staffed 21 locations and made an adjustment for a semiannual 22 inspection at unstaffed locations, which addressed 23 concerns that it was really impractical to have monthly 24 inspections of these couplers and hoses and valves and 25 pipes at unstaffed locations.
1960 1 fewer than 13 times in a calendar year. 2 And then in addition, when transferring 3 hydrocarbon liquid from a transfer vessel to a storage 4 vessel, and that -- that tank or that vessel is subject 5 to the tank requirements, there are no additional 6 requirements for those types of liquid transfers, and 7 because that storage vessel is already controlling those 8 emissions, there's no benefit then to adding that 9 duplicative requirement. 10 So under the emission standards section, we 11 made several important clarifications based on feedback 12 from the stakeholders, including clarifying that if a 13 combustion control device is used, the combustion device 14 shall have a minimum design combustion efficiency of 15 98 percent. And we've made that similar statement 16 throughout other sections. 17 And also clarifying that this -- this control 18 requirement applies when transferring hydrocarbon 19 liquids, which was an important clarification to a 20 tanker truck or tanker railcar for transport. 21 The other minor revisions here address 22 comments from stakeholders, were very helpful, I think, 23 in -- in this section. We've added a -- language that 24 addressed facilities that had multiple storage vessels 25 that are manifolded together, and we've clarified that	1962 1 We did add in a requirement that at least once 2 per calendar year the inspection shall occur during a 3 transfer operation. We think that's an important 4 component of this inspection, that the inspection 5 actually done -- be done when a transfer operation is 6 occurring. And then we've clarified that measures must 7 be taken to mitigate leaks until repairs are made, in 8 the event that leaks are discovered. 9 What you're looking at now is a 10 red-line/strike-out version of a requirement that was 11 not intended to be included. This -- we did not intend 12 to regulate trucks. This is a vapor pressure testing 13 requirement that has -- that has since been removed, 14 based on the fact that the Department did not intend to 15 regulate the trucks under this part. 16 We've struck the requirement to install an 17 EMT, and we replaced it with a requirement to date and 18 time stamp the event prior to any monitoring event. 19 We've struck -- under the recordkeeping 20 requirements, we've struck the requirement to maintain a 21 record of the location of the storage vessel which was, 22 you know, not really necessary to demonstrate compliance 23 with the emission standards of this part. And so we've 24 modified this somewhat to address that -- that issue. 25 And we have modified the recordkeeping requirements

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1 to -- to instead identify the location of the facility, 2 and then identify the type, make and model of the 3 control device if -- if one is being used. 4 And then just very minor other clarifications 5 and edits that -- that cleared up the language. 6 And that is the end of this presentation. 7 MS. KATZ: Thank you, Ms. Kuehn. 8 And that is all the Department has for 9 hydrocarbon liquid transfers. 10 HEARING OFFICER ORTH: Thank you. 11 Are there counsel or parties with questions of 12 the Department panel? 13 Mr. Hiser, I see you on screen. 14 I no longer see you on screen. 15 Are there parties -- 16 MR. HISER: I'm sorry. I did not mean to hit 17 that button. 18 HEARING OFFICER ORTH: Are there parties or 19 counsel with questions of the Department panel? 20 No. All right. 21 Are we able to move to Mr. Smitherman and/or 22 Mr. Meyer? 23 MR. HISER: Yes, Madam Hearing Officer. And 24 it may be just as efficient to bring them both on at the 25 same time.	1 fact that they have addressed several of the 2 operational -- operational challenges that we see with 3 this concept. 4 First of all -- if you'd like me to just 5 continue through, Mr. Hiser, I can do so, without 6 question and answer. 7 MR. HISER: Okay. If we could proceed 8 expeditiously given the hour, I think -- 9 MR. SMITHERMAN: Absolutely. 10 MR. HISER: -- appreciate that. 11 MR. SMITHERMAN: Absolutely. 12 First of all, we appreciate the fact that 13 low-producing-rate sites have been given some 14 flexibility, plus those sites that are connected to all 15 pipelines. 16 Transfers from storage tanks to trucks or 17 railcars do create vapors, and NMOGA does support 18 capturing these vapors for capturing or more likely for 19 destruction, since many times these tanker trucks have a 20 substantial amount of air in them. So you really don't 21 have a saleable product in them. 22 Also, these transfers happen around the clock. 23 It's very, very difficult for us to witness very many of 24 these without extraordinary efforts. 25 We also -- also especially appreciate the fact
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1 HEARING OFFICER ORTH: I agree. 2 JOHN R. SMITHERMAN and ADAM MEYER 3 (Relating to Topic Order 31) 4 having been first duly sworn or affirmed, were 5 examined and testified as follows: 6 DIRECT EXAMINATION 7 BY MR. HISER: 8 MR. HISER: So, Mr. Smitherman, can you state 9 your name for the record, please. 10 MR. SMITHERMAN: John R. Smitherman. 11 MR. HISER: And, Mr. Meyer, can you state your 12 name for the record, as well. 13 MR. MEYER: Adam Meyer. 14 MR. HISER: And, Mr. Smitherman, your 15 testimony is previously admitted as NMOGA Exhibit A1 and 16 NMOGA Exhibit 41; is that correct? 17 MR. SMITHERMAN: That's correct. 18 MR. HISER: And, Mr. Meyer, your testimony on 19 this was admitted as NMOGA Exhibit 42; is that correct? 20 MR. MEYER: Yes, that's correct. 21 MR. HISER: Okay. 22 In the red-lines that were just presented by 23 Ms. Kuehn, has NMED addressed all of the concerns that 24 you had raised in your comments, Mr. Smitherman? 25 MR. SMITHERMAN: They have. We appreciate the	1 that the -- this rule has been clarified to make sure it 2 applies to crude oil transfers only of not produced 3 water. Produced water transfers, as Mr. Meyer had 4 mentioned earlier, are a very different thing, would 5 make it very difficult to apply the same controls. 6 That's the sum -- that's the end of my 7 summary, Mr. Hiser. 8 MR. HISER: Thank you, Mr. Smitherman. 9 Similarly, Mr. Meyer, has the red-lines that 10 were just outlined by Ms. Kuehn addressed the concerns 11 that you had raised in your prior testimony on this 12 matter? 13 MR. MEYER: Yes. Specifically, like 14 Mr. Smitherman said, regarding water transfer vapor 15 capture during a water load-out, as well as the 16 clarification of allowing with truck vapor balance back 17 to any tank in the tank battery, those two things will 18 very much help future designs. 19 MR. HISER: And then you also are supportive 20 of the Department's clarification that it's not the 21 leak-free, but often it's minimize emissions where we're 22 connecting and disconnecting hoses? 23 MR. MEYER: Absolutely, I support that. 24 MR. HISER: Thank you. 25 That's all I have, Madam Hearing Officer.

1967 1 HEARING OFFICER ORTH: Thank you, Mr. Hiser 2 and gentlemen. 3 I'm not sure if we were able to get Mr. Kim on 4 the program -- platform. Excuse me. 5 Mr. Colclasure? 6 Oh. We may also have Mr. Holderman to hear 7 from. 8 MR. JANOE: Madam Hearing Officer, Scott 9 Janoe. 10 I have Mr. Holderman in the room with me, as 11 well. 12 Just for reference, Mr. Holderman will be 13 speaking specifically about concerns with the revised 14 Section 120C.(1), which added the semiannual inspection 15 requirements that were mentioned by Ms. Kuehn. Prior 16 comments by Oxy, including a request for a two-year 17 phase-in for existing sources were already addressed by 18 the agency, and Oxy no longer has comments on that. 19 But the new section added in the 20 September 16th proposal at 120C.(1) will be the focus of 21 his testimony now, and I will move over and allow 22 Mr. Holderman in. 23 HEARING OFFICER ORTH: Thank you. 24 25	1969 1 out and witness a transfer versus just inspecting the 2 equipment that we keep on location would, in our view, 3 not be the most efficient use of the time to -- to 4 monitor the effectiveness of the -- the trucking 5 companies that are coming out to effect those transfers. 6 So while we've not had any time to prepare a 7 response, we would request that the annual inspection 8 during a transfer be removed and then we look for a 9 better way to effect the -- the inspection that 10 (unintelligible and/or inaudible). 11 MR. JANOE: And we would present Mr. Holderman 12 for cross. 13 HEARING OFFICER ORTH: Thank you, Mr. Janoe. 14 That was terrifically efficient. 15 Let me ask if there are any party or counsel 16 who have questions of Mr. Holderman? 17 No? 18 All right. I think, then -- and as I 19 understand it, we will not be able to hear from Mr. Kim 20 this evening. 21 But let's see if the Board have questions 22 right now of the witnesses in front of us. 23 While I'm doing that, if you're on the 24 platform and have a question as an attendee, please 25 reach out through chat.
1968 1 DANNY HOLDERMAN 2 (Relating to Topic Order 31) 3 having been first duly sworn or affirmed, was 4 examined and testified as follows: 5 DIRECT EXAMINATION 6 BY MR. JANOE: 7 MR. HOLDERMAN: Okay. Just very briefly -- 8 Q. (BY MR. JANOE) Let me go ahead and ask you 9 the question, Mr. Holderman. 10 A. Okay. Sorry. 11 Q. We can set up the record. 12 A. All right. 13 Q. Mr. Holderman, what are -- what are your 14 concerns with the semiannual inspection requirements at 15 120C.(1)? 16 A. Yes. As you said, the September 16th version 17 added the requirement for unstaffed locations to be 18 inspected semiannually with one of those inspections 19 being done during a transfer. We've acknowledged -- or 20 I think most have acknowledged on here that the 21 transfers happen at very random and difficult times to 22 get people out to unstaffed locations to see, and so we 23 do not always have notification necessary to get out to 24 all of our sites to be able to inspect these. 25 The effort that it would take, then, to get	1970 1 ELIZABETH BISBEY-KUEHN, BRIAN PALMER, 2 JOHN R. SMITHERMAN, ADAM MEYER and DANNY HOLDERMAN 3 (Relating to Topic Order 31) 4 having been first duly sworn or affirmed, was 5 examined and testified as follows: 6 EXAMINATION 7 BY THE BOARD: 8 HEARING OFFICER ORTH: Madam Chair, would you 9 have questions of the Section 120 witnesses that we have 10 before us? 11 CHAIR SUINA: Thank you, Madam Hearing 12 Officer. I think I just have one for Ms. -- for NMED. 13 So right now, I guess, IPANM still has an 14 outstanding concern about the frequency of inspections 15 for the un- -- is it unstaffed locations? Has there 16 been any further discussion with your -- with NMED on 17 resolving that issue? 18 MS. BISBEY-KUEHN: No, Madam Chair. There has 19 not been any internal discussion around that question. 20 And it was Oxy, I believe, that had that, that raised 21 that issue. So I'm not sure if there was another issue 22 that you were highlighting that IPANM had. 23 CHAIR SUINA: Yeah. Oh, sorry. Sorry. It 24 was Oxy. So I'm looking at my notes. You're right. 25 Is there -- what -- I guess back to that

1971 1 latest version, is there -- can you just re -- again 2 re-elaborate what the concern is regarding -- or what 3 was the reasoning to add in that language? I know there 4 was a couple of iterations. 5 MS. BISBEY-KUEHN: Sure. So let me get to -- 6 let me open up our rebuttal testimony on that. 7 So the current requirement is to visually 8 inspect the transfer equipment monthly at staffed 9 locations and semiannually at unstaffed locations. And 10 that was in response to commenters, that it would be -- 11 it would be difficult for them to meet the monthly -- a 12 monthly inspection requirement at unstaffed locations, 13 and so we made that adjustment. 14 In addition, we -- we did want to have one -- 15 we wanted to have an inspection conducted during an 16 actual transfer operation. So you can check that -- 17 those components, pipes, valves, connectors, that are 18 under pressure, you can actually check them for leaks. 19 And I think the best way to do that is during an actual 20 transfer operation. 21 CHAIR SUINA: Thank you for that, Ms. Kuehn. 22 And so really you did make an adjustment in 23 terms of the frequency from monthly to semiannually; is 24 that correct? 25 MS. BISBEY-KUEHN: We did add -- we clarified	1973 1 protocol that allows us to more frequently inspect 2 the -- those that are making those connections rather 3 than an arbitrary once a year test that connection 4 environment. 5 We haven't proposed anything yet. Like we 6 said, it was new in the September 16th one, and we've 7 been trying to think of what we would propose. But -- 8 but that's our concern in a nutshell, as far as the 9 effectiveness of a protocol. We don't have any 10 disagreement with the need to inspect equipment or the 11 need to capture the vapors. We want to make sure that 12 we're not -- you know, our lease operators that we're 13 going to use, rather than them waiting around for a 14 couple days for somebody to show up, we can more 15 effectively target where we (unintelligible and/or 16 inaudible). 17 VICE-CHAIR TRUJILLO DAVIS: Okay. I think -- 18 it sounds like there's definitely room to come to some 19 agreements here. So I -- 20 MR. HOLDERMAN: We -- we totally agree. We 21 just haven't opened that conversation. 22 VICE-CHAIR TRUJILLO DAVIS: Okay. 23 I don't have any more questions. Thank you. 24 HEARING OFFICER ORTH: Thank you. 25 Member Cates?
1972 1 that it would be monthly at staffed locations and 2 semiannually at unstaffed locations. 3 CHAIR SUINA: Okay. Thank you. 4 That's all for now, Hearing Officer, Madam 5 Hearing Officer. 6 HEARING OFFICER ORTH: Thank you. 7 Vice-Chair Trujillo Davis? 8 VICE-CHAIR TRUJILLO DAVIS: Yes. 9 Mr. Holderman, would it be possible to have a 10 lease op run the inspection at an unstaffed location? 11 MR. HOLDERMAN: That's how you would execute 12 it. It's more of a -- the lease op -- operator will 13 call in a truck when to -- to have them come effect the 14 transfer, and it could be any time in the next two days. 15 And so they're not notified particularly unless we 16 request it for -- for them to -- to announce when 17 they're going to be out there for us to go inspect that 18 inspection. 19 And so that -- that's the concern that we 20 have, and that's why we want to open up the dialogue 21 around it, is the majority of the leaks that happen 22 during transfer tend to happen because of operator 23 error, not because the equipment is leaking. And so if 24 we're going to go to the effort to -- to institute a 25 rule to minimize emissions, it needs to be around a	1974 1 MEMBER CATES: Yeah. Just a quick question 2 on -- to Ms. Kuehn, I guess. 3 So when we say semiannual, do we mean twice in 4 a calendar year, or do we -- do we mean once in the 5 first half of a fiscal year? What does that -- what 6 does that mean exactly? 7 MS. BISBEY-KUEHN: Yes. Member Cates, thank 8 you for that question. 9 It means at least twice per calendar year. 10 MEMBER CATES: And so it could be in January 11 and February, it could be -- or it could be in January 12 and December, or it could be in June and -- 13 MS. BISBEY-KUEHN: That's correct. We 14 haven't -- we haven't specified a time lapse between the 15 two monitoring events. 16 MEMBER CATES: All right. 17 MS. BISBEY-KUEHN: I would -- I would like to 18 clarify that the requirement to conduct the inspection 19 while the transfer is occurring was in the September 7th 20 version of the rule. That -- so there is -- there is 21 rebuttal testimony from the Department that explains 22 that in our -- in our NMED Rebuttal Exhibit Number 1. 23 HEARING OFFICER ORTH: All right. Thank you. 24 Member Bitzer? 25 Did you say no questions?

1975 1 MEMBER BITZER: I have no questions. Thank 2 you. 3 HEARING OFFICER ORTH: Thank you. 4 Member Garcia? 5 MEMBER GARCIA: Thank you, Madam Hearing 6 Officer. 7 Not really a question. I just want to say I 8 appreciate that items that the industry brings up that 9 haven't been resolved, there's still an opportunity to 10 resolve them before the posthearing submittals come in 11 and possibly a new version of the rule. So I appreciate 12 that there will be more back and forth, and so we don't 13 have to resolve those things today. They will be -- 14 there are opportunities to get them resolved. 15 HEARING OFFICER ORTH: Okay. Thank you. 16 Member Honker. 17 MEMBER HONKER: No questions here. Thank you. 18 HEARING OFFICER ORTH: All right. Thank you. 19 Did any of the questioning raise in the minds 20 of counsel a need to do some follow-up? Turn on your 21 screen. 22 Not seeing anyone. 23 All right. Thank you, Section 120 witnesses. 24 Thank you very much. 25 Oh, there's Mr. Colclasure.	1977 1 I see Ms. Gutierrez on the screen. Maybe she 2 has some input to that. 3 HEARING OFFICER ORTH: Ms. Gutierrez? 4 MS. GUTIERREZ: Thank you, Ms. Katz and Madam 5 Hearing Officer. 6 I was just going to suggest maybe we could 7 move through pigging pretty quickly, but it sounds like 8 you may have more information than I do on availability. 9 So I'll let -- I'll defer to you on that. 10 MS. KATZ: I guess we could -- we could 11 probably do it. I -- but I'm not sure NMOGA is -- 12 MR. HISER: Our witness isn't on today. So 13 I'd have to try to track her down. 14 We could enter the stipulation on 127. 15 MS. KATZ: Yeah. I was going to say we 16 could -- we could just get 127 done. 17 HEARING OFFICER ORTH: You know what? I just 18 saw Mr. Kim on the platform. 19 Mr. Colclasure, if I see Mr. Kim on the 20 platform, would this be a good time? 21 MR. COLCLASURE: I would just ask, Il, 22 Mr. Kim, if you're available, if you're actually on the 23 platform, will you please chime in. 24 HEARING OFFICER ORTH: Did -- 25 MR. KIM: Yeah. This is Il.
1976 1 Hello, Mr. Colclasure. 2 MR. COLCLASURE: Yes, Madam Hearing Officer. 3 I don't have any questions in response to the 4 Board's questions, but I did want to first apologize for 5 the inconvenience that we were not able to locate our 6 witness on this topic and ask if it would be possible 7 for us to call Mr. Kim first thing tomorrow morning, or 8 any time tomorrow. 9 HEARING OFFICER ORTH: Well, so we -- I just 10 responded to another request to speak tomorrow morning 11 immediately after public comment. Ms. Katz reminded me 12 that we said we were going to be hardwired for 13 pneumatics in the morning. 14 Will Mr. Kim be available after the pneumatics 15 discussion, or -- 16 MR. COLCLASURE: I believe so, yes, ma'am. 17 HEARING OFFICER ORTH: -- at some other time? 18 All right. Thank you. I made a note, and I 19 will not forget Mr. Kim. 20 Ms. Katz, are we feeling pretty good about 21 where we are this evening? 22 MS. KATZ: I think so, Madam Hearing Officer. 23 I don't believe that there's -- there's good candidates 24 for going forward that have everybody available that 25 would need to be.	1978 1 Can you guys hear me? 2 HEARING OFFICER ORTH: Yes, quite clearly. 3 MR. KIM: Sorry. I was -- came home, and I 4 was doing dinner and heard that they were trying to do 5 all this stuff. So I am -- I have no idea what we've 6 done for about the last hour, and I apologize for that. 7 And -- 8 HEARING OFFICER ORTH: So it would be -- I'm 9 sorry. The other parties' witnesses just covered 10 Section 120, which is hydrocarbon liquid transfers. 11 Would you be able to give some brief testimony 12 on hydrocarbon liquid transfers? 13 MR. KIM: Can we wait until tomorrow? 14 HEARING OFFICER ORTH: Yeah. I just can't 15 give you a time exactly tomorrow. It would be after 16 pneumatics. 17 MR. KIM: That -- that's fine. You know, 18 tomorrow I'll be better situated to do that. I'm at my 19 house, and I have a baby daughter in the background 20 screaming at me right now. So -- 21 HEARING OFFICER ORTH: All right. Good luck 22 with that. 23 MR. KIM: Appreciate it. 24 HEARING OFFICER ORTH: Yeah. Thank you. 25 MR. COLCLASURE: Thank you, Madam Hearing

1979 1 Officer, for indulging us. 2 HEARING OFFICER ORTH: Thank you, 3 Mr. Colclasure. 4 Let me ask if Ms. Witherspoon -- I think I saw 5 Ms. Witherspoon a little bit ago -- if you're still with 6 us and would like to offer brief statement, either now 7 or later. 8 No? She may have left us. Okay. 9 So we do have some loose ends. I made some 10 notes as to the loose ends. 11 Ms. Katz, I think you were just about to go to 12 some stipulation as to Section 127. 13 MS. KATZ: Yes. I will just call Ms. Kuehn on 14 that, we could just pull it up. 15 MS. BISBEY-KUEHN: Yes. Just give me one -- 16 one second here. 17 ELIZABETH BISBEY-KUEHN 18 (Relating to Topic Order 38) 19 having been first duly sworn or affirmed, was 20 examined and testified as follows: 21 DIRECT EXAMINATION 22 BY MS. KATZ: 23 MS. KATZ: And for the Board's information, 24 this is Section 20.2.50.127, the credible evidence 25 provisions. The testimony on this is in NMED	1981 1 Department or provided by a third party indicates that a 2 source is not in compliance, that evidence or 3 information may be used by the Department for purposes 4 of establishing whether that -- that person has violated 5 or is in violation of the part. 6 So those -- those edits satisfactorily address 7 the comments that we received on this section. 8 Q. And, Ms. Kuehn, can I just -- let's clarify 9 that the Department -- that the stipulation removes the 10 presumption of a violation based on credible evidence; 11 is that correct? 12 A. That's correct. 13 Q. And it doesn't actually say what credible 14 evidence is, that that's still a determination that will 15 have to be made by the Department, correct? 16 A. Yes. 17 Q. And this allows for the Department to consider 18 information that it obtains or that is provided to it by 19 a third party. 20 A. That's correct. 21 MS. KATZ: Thank you. 22 That's all we have on this provision. 23 HEARING OFFICER ORTH: Thank you very much, 24 Ms. Kuehn and Ms. Katz. 25 Let me ask if there's any other party that
1980 1 Exhibit 32, starting on page 155, and NMED Rebuttal 2 Exhibit 1, page 103. 3 Q. And, Ms. Kuehn, can you please discuss these 4 provisions and the stipulated language that the parties 5 have agreed on. 6 A. Yes. And so this is a unique section at the 7 end of the regulation that outlines -- provides an 8 overview of credible evidence and what information is 9 considered credible by the Department. 10 We worked with NMOGA and Oxy, Clean Air 11 Advocates and EDF to come up with a revised language for 12 this section, and provided the proposed language to all 13 parties, and they've all stipulated to the following 14 changes indicated by the red-line. 15 The title of the section has changed to 16 Prohibited Activity and Credible Evidence. 17 We've struck in entirety Paragraph C, which 18 stated that if credible information provided to the 19 Department by a member of the public indicates that a 20 source is not in compliance, that the source shall be 21 presumed to be in violation of the part unless the owner 22 or operator provides credible evidence to the contrary 23 demonstrating otherwise. 24 And we've made revisions to Paragraph B that 25 if credible evidence or information is obtained by the	1982 1 would have a question or anything else on this 2 stipulation. 3 I'm not seeing any other screens. 4 Board Members, I'll turn to you. 5 If there's an attendee, please reach out 6 through the chat. 7 EXAMINATION 8 BY THE BOARD: 9 HEARING OFFICER ORTH: Madam Chair, any 10 questions? 11 CHAIR SUINA: Thank you, Madam Hearing 12 Officer. I don't have any questions at this time. 13 HEARING OFFICER ORTH: Thank you. 14 Vice-Chair Trujillo Davis? 15 VICE-CHAIR TRUJILLO DAVIS: Yeah. Just a 16 quick one. 17 I'm just curious if you envision this being 18 set up like a -- like an SPCC type in structure where -- 19 just because given the complexity of this rule? So when 20 you would look at compliance, do you -- are you 21 envisioning like assigning like compliance levels to 22 each one of those things, or -- I don't know. I see 23 Ms. Katz like shaking her head, like not real sure what 24 I'm talking about. 25 So like in an SPCC inspection, you go through

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16 So thank you, all, very much, and we'll see
17 you tomorrow morning at 9:00.
18 (Proceedings adjourned at 6:28 p.m.)

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