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STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:
Case No. 25875

HEARING - DAY 5
DATE: Friday, July 31, 2026
TIME: 9:00 a.m.
BEFORE: Hearing Officer Felicia Orth
LOCATION: Wendell Chino Building
1220 South St. Francis Drive,
Pecos Hall
Santa Fe, NM 87505
REPORTED BY: Ryan Auten
JOB NO.: 8347079

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ALSO PRESENT:

Matt Eales, CoolSky Energy Solutions
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Katherine Walton, WELC
Elvis Leunguen, EMNRD (by videoconference)
Caroline Wachtman, Attendee
Allison Marks, Attendee (by videoconference)
Peter Kondrat, EMNRD (by videoconference)
Robert Mathes, Attendee (by videoconference)
Tiffany Wallace, Attendee
Gerasimos Razatos, EMNRD (by videoconference)
Erin Ramaker, Attendee (by videoconference)
Le Teaisha Carter, Attendee (by videoconference)
Mike Eisenfeld, SJCA (by videoconference)
Carl Chavez, EMNRD (by videoconference)
Dr. William Ampomah, Commissioner
Paige Czoski, Commissioner
Sheila Apodaca, Commission Clerk
Benjamin Shelton, EMNRD (by videoconference)
Janet Berry, Attendee
Michael Buchanan, EMNRD (by videoconference)
Rocky Jaramillo, Attendee (by videoconference)
Delilah Dougi, EMNRD (by videoconference)

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E X H I B I T S

NO.

DESCRIPTION

ID/EVD

(None marked.)

1 P R O C E E D I N G S

2 MS. ORTH: My name is Felicia Orth. We
3 are on Day 5 of the hearing in 25875. This is a Oil
4 Conservation Commission -- petition to the Commission
5 for state primacy for Class VI wells. We've reached
6 the fifth public comment session. Let's see. I think
7 Janet Berry is in the room.

8 Hello, Ms. Berry.

9 MS. BERRY: Good morning.

10 MS. ORTH: We'll hear from Ms. Berry,
11 and then I'll ask if there's anyone else in the room
12 or on the platform. When we're done with public
13 comment, we'll return to the technical case.

14 So, Ms. Berry, if you'll come up here

15 MS. BERRY: I want to make sure I'm at
16 the right event. This is regarding carbon dioxide
17 storage. Is that correct?

18 MS. ORTH: Sequestration.

19 MS. BERRY: Okay. I would be really
20 embarrassed about it.

21 MS. ORTH: Yeah.

22 MS. BERRY: Thank you.

23 Good morning, everybody.

24 MS. ORTH: Good morning. Feel free to
25 tell me -- if you'll make it green. And then spell

1 your first and last name, please.

2 MS. BERRY: J-A-N-E-T, B-E-R-R-Y.

3 MS. ORTH: Do you swear or affirm to
4 tell the truth?

5 MS. BERRY: Yes.

6 MS. ORTH: Thank you. Go ahead.

7 MS. BERRY: Thank you.

8 Good morning. Good morning to all, and
9 specifically the Oil Conservation Commission regarding
10 the underground storage sequestration of carbon
11 dioxide. I want to thank you, and especially thank
12 the Western Environmental Law Center for your
13 perseverance, care, and vitality to save lands from
14 devastation and to preserve our lands and ecosystems
15 and beautiful West.

16 I recently retired from the Santa Fe
17 Public Schools' Adelante Program where we serve our
18 homeless students and their families. I'm not a
19 scientist, but a concerned community member. I also
20 worked at Santa Fe Community College for 18 years.
21 This is just a story that's related because it's all
22 about water, how -- how different things can affect
23 our water between these data centers that are coming
24 up with plutonium pits. They also use water if they
25 unfortunately continue with that.

1 Anyways, I briefly met a biochemist
2 when I worked at the community college from Venezuela.
3 It was just for a couple hours. He was working with a
4 mining company who was invading the Amazon, taking out
5 whatever they were determined to take out, and he was
6 hoping he could help make that process healthier; that
7 they would do what they needed to do to not destroy
8 any of the Amazon.

9 And he asked me, he said, "How do you
10 think the world's going to end?" And I replied, of
11 course, living here 39 years down from Los Alamos,
12 "Oh, definitely nuclear war." I've been an
13 anti-nuclear weapons since my 20s. And he said, "No,
14 people are going to die of thirst," and people are
15 already dying of thirst because they don't have
16 healthy drinking water. Even people in the United
17 States don't have healthy drinking water. The main
18 population doesn't even have water, they have to have
19 it hauled which is shameful. Anyways, that really
20 struck a chord with me.

21 New Mexico's the fifth largest land
22 mass state in the US; for that reason, as well as our
23 wonderful cultural diversities in our state, I feel
24 we're taken advantage of on a regular basis like a
25 third-world country. Either someone wants to bury

1 something, extract something, and they don't -- they
2 don't think about the detrimental consequences, or
3 they do but it's not their priority; usually, money is
4 the priority, and higher powers that believe they can
5 do whatever they want.

6 I believe New Mexico is a victim of
7 environmental racism, as is Louisiana. I heard a
8 woman talking about her work in Louisiana; indigenous
9 people there have suffered a lot. Pig farms in North
10 Carolina, respiratory issues because of those pig
11 farms. I don't think any of us would want to live
12 near those disgusting pig farms where the poop is
13 taking over the -- the air.

14 Anyway, until the repercussions of
15 storing or the sequestration of carbon dioxide are
16 known, secured, and emergency plans are in place, this
17 is not a viable concept and we shouldn't rush into it.
18 Companies need to be held accountable as always.

19 The lab has never completed its cleanup
20 as promised. WIPP, I'm sure you all know about WIPP
21 down in Carlsbad, has had disastrous leaks. Let's not
22 forget the downwinders in Tularosa suffering from
23 cancer generationally to this day from the Trinity
24 Site. Employees received benefits to ease into their
25 deaths from toxic exposures. Yippee, the lab's

1 paying -- paying everything until they die because of
2 where they worked.

3 Our water is compromised greatly
4 already. I went over the bridge in Albuquerque and
5 the Rio Grande does not exist anymore; I was
6 heartbroken to see that. I'm happy to say Cochiti,
7 Kiowa, and San Felipe Pueblo still have river water,
8 but Albuquerque does not.

9 It's always best to be on the safe
10 side, the side of safety and humanity, and not on the
11 side of profit, greed, and expediency. When will we
12 learn? Water is life. And we just need to keep that
13 in mind because we can't take it for granted.

14 Estancia ran out of water. I read an
15 article the other day that people have to go and get
16 more water in cisterns because their wells are not
17 producing anymore. So if anybody here lives on a
18 well, I wish you well, pun intended. But I do
19 appreciate being able to -- to come and speak. Thank
20 you.

21 MS. ORTH: Thank you, Ms. Berry. Thank
22 you.

23 Is there anyone else in the room who
24 would like to offer a public comment?

25 Sheila, do we have anyone on the

1 platform?

2 MS. APODACA: Excuse me. There's no
3 one signed up, and I don't see any hands raised.

4 MS. ORTH: All right. Well, let's go
5 back to the technical case then. When -- when we
6 broke last night, the questioning of Dr. Helm-Clark
7 was still proceeding.

8 And, Commissioner Czoski, I believe
9 you -- we were in the middle of your questions.

10 And I trust we have the Chair on the
11 platform.

12 MS. APODACA: Yes, he's on.

13 MS. ORTH: All right. Thank you very
14 much.

15 MS. CZOSKI: Good morning,
16 Dr. Helm-Clark. Thanks again for being here. So I
17 just want to start off with -- there were some
18 questions yesterday about your experience in New
19 Mexico. And just to clarify, you haven't worked in
20 New Mexico; correct?

21 DR. HELM-CLARK: I've never worked a
22 project in New Mexico.

23 MS. CZOSKI: But you have experience
24 doing geology and geophysics all over the world in
25 multiple projects; correct?

1 DR. HELM-CLARK: That -- that is
2 correct.

3 MS. CZOSKI: And geologic principles
4 work the same no matter where you are in the world;
5 correct?

6 DR. HELM-CLARK: That is correct.

7 MS. CZOSKI: Thank you. Just want to
8 clarify. So I guess let's go ahead and ask a little
9 bit more about the area of review. And I was looking
10 at some EPA proposals last evening, and I was just
11 wondering if you knew; is the area of review, is that
12 a public -- publicly shared information of how large
13 of where an area of review actually is where it is?

14 DR. HELM-CLARK: Well, it should be.
15 I -- I -- I've actually seen permits -- well,
16 actually, I've seen one permit where all information
17 about the location and the size of the area of review
18 and the EPA permit were totally redacted out. It was
19 like reading the Epstein's files.

20 MS. CZOSKI: So is that -- is that
21 normal in your experience, that the information is not
22 public?

23 DR. HELM-CLARK: It's the first permit
24 where I saw where the -- where none of the information
25 that I would be looking for was public.

1 MS. CZOSKI: And are the -- the
2 interested parties who need to be notified, is that
3 public information? Do you know?

4 DR. HELM-CLARK: Yes.

5 MS. CZOSKI: Okay. Thanks. So in your
6 testimony yesterday, you mentioned that the risk isn't
7 just to USDWs. There can be multiple risks from
8 carbon injection. And in your experience, can CO2
9 leak from a reservoir into the surface -- or onto the
10 surface, for example, without endangering a USDW?

11 DR. HELM-CLARK: Directly or through a
12 well?

13 MS. CZOSKI: I guess either one.

14 DR. HELM-CLARK: Well, if -- if we're
15 going to look at all pathways, if you were going to
16 leak from -- from an injection zone to the surface
17 through a well, and the well did not have any well
18 faults that exposed the USDW despite the fact that
19 there may be one in the stratigraphy, you could
20 conceivably go from injection zone to the surface
21 without endangering that USDW.

22 On the other hand, if you had a -- if
23 you had a -- a hole in your upper confining layer and
24 you were injecting -- and you can know about that
25 hole, you listed in your characterization, this --

1 this is possible to do -- you could be leaking through
2 that hole out of the -- you know, out of the injection
3 zone, out of the confining zone, and upwards into
4 strata that are unauthorized. If there's a USDW in
5 that pathway, then you will endanger.

6 MS. CZOSKI: So you're saying -- just
7 to clarify, you can have CO2 leak out of the
8 authorized injection zone into other oil and gas
9 layers or geothermal intervals?

10 DR. HELM-CLARK: Yes.

11 MS. CZOSKI: Okay. Thank you. So in
12 the rule, there's a lot of talk of just making sure
13 that there's no endangerment to USDWs without
14 specifying that there could be endangerment to other
15 mineral or the surface. Have you -- did you see
16 examples of that when you reviewed the rule? I can
17 just point out an example too if that would be useful.

18 DR. HELM-CLARK: Oh.

19 MS. CZOSKI: Here, I -- I can just
20 point out -- if -- if you --

21 DR. HELM-CLARK: I -- I lost track of
22 where the question was.

23 MS. CZOSKI: No, it's fine. I'm
24 looking at your Exhibit 1, and I'm on page 17 -- 0017;
25 so the number on the bottom center part of the page.

1 DR. HELM-CLARK: Thank you. I'm on
2 0017.

3 MS. CZOSKI: Okay. And then I'm
4 looking at letter K.

5 DR. HELM-CLARK: Okay.

6 MS. CZOSKI: And just as an example of
7 this, it says: "Testing and monitoring requirements.
8 The owner or operator of a Class VI well must prepare,
9 maintain, and comply with the testing and monitoring
10 plan to verify that Geologic Sequestration Project is
11 operating as permitted and is not endangering USDWs."

12 Do you think there should be more text
13 in here to say that it should not endanger other
14 minerals or the surface, or maybe something to the
15 effect that it should not be able to escape the
16 permitted injection zone?

17 DR. HELM-CLARK: I'd be in favor of
18 putting into adding something along the lines of "Is
19 not endangering USDWs and not endanger" -- "and
20 not" -- "and not having any" -- I'm -- I'm struggling
21 with the language here, and I'm sure a lawyer would do
22 a lot better -- "not having any unauthorized releases
23 out of the injection zone."

24 MS. CZOSKI: Okay. Thank you for that.
25 Okay. And I don't know in your experience, do you --

1 do you think that CO2 injection could occur within a
2 geothermal reservoir?

3 DR. HELM-CLARK: Oh, geez. I think
4 that'd be difficult. And I have actually done -- and
5 I've done geothermal.

6 MS. CZOSKI: Okay.

7 DR. HELM-CLARK: I was doing geothermal
8 when I was at the Idaho National Lab. When you've got
9 an active geothermal circulation, you usually have a
10 heat source and it's moving things around all of the
11 time; that's not a static system, it's very dynamic.

12 I actually wrote a CO2 model in my
13 dissertation for dynamic CO2 -- well, I should say CO2
14 entropy dynamics and hypothermal explosions in
15 geothermal systems. So I mean, I -- I understand that
16 these things -- I -- I think I understand these things
17 reasonably well.

18 Your geothermal circulations,
19 they're -- they're dynamic. They're -- they're -- you
20 know, it's -- it's a boiling pot of soup all the time.
21 And -- and what makes the resource is whether or not
22 you've got -- you've got fluids in the system that
23 then you can extract and get the heat out of to make
24 power generation; that makes -- is what makes it an
25 economic resource.

1 But the ultimate driving force is some
2 kind of -- is some kind of thermal anomaly, usually a
3 dying or active magnetic body that's putting heat into
4 the system and -- and, you know, making the soup boil.
5 So no, I -- actually, I would not be in favor of
6 sequestration into a system that is dynamic. No.

7 MS. CZOSKI: Do you think -- do you
8 think the division that is permitting geothermal wells
9 should work with this division permitting carbon
10 sequestration wells just to make sure that there's
11 good coordination between the two?

12 DR. HELM-CLARK: Why not? It would
13 make sense.

14 MS. CZOSKI: Okay. Thanks. And so I
15 know yesterday we kind of broke -- before, we were
16 talking about 3D seismic characterization, and I had a
17 few questions about ambient noise tomography for you.
18 So can ambient noise tomography do a good, accurate
19 job at mapping the location and the orientation of
20 faults, or is it better used for tracking fluid
21 movement?

22 DR. HELM-CLARK: Well, it -- you know,
23 I'm -- I'm going to preface these statements right off
24 the bat that I personally have never done ambient
25 noise tomography. I know the method from -- from

1 literature surveys; so basically what I'm saying is
2 based off of my knowledge of peer-reviewed literature.

3 And I've actually seen it in action,
4 though I have not put my hands physically on the data
5 at the Pulsar Helium Project here in Minnesota, which
6 I have been all over, and -- and they've done
7 wonderful things with -- with using the ambient noise
8 tomography and -- and characterizing their gas
9 resource.

10 And I -- I know you already know that
11 since I -- I dropped in one of their ambient noise
12 tomography images into my exhibits to show you how
13 beautifully you -- you can image changes in -- in a
14 gas resource in the lithology.

15 The ambient noise tomography has indeed
16 been used to characterize faults. Like all surface
17 geophysical -- you know, like all geophysical surveys
18 that are collected at the surface, there is always a
19 trade-off in between the detail and depth. And you --
20 you can see deep, and the deeper you look, the less
21 detail you've got. The shallower you -- you look, the
22 more detail horizontal you can resolve. And -- and
23 this is just, you know, geometry of doing any kind of
24 survey at all.

25 So there's a trade-off. And -- and the

1 trade-off exists inside -- you know, in regular
2 seismic too. So the -- the thing that -- the reason I
3 went down the ambient noise tomography rabbit hole is
4 because it's got the ability to do everything that
5 3D -- well, I should say almost everything that 3D
6 seismic can do in terms of imaging the subsurface.

7 And it gets around the -- it gets
8 around the basalt seismology problem, which -- and
9 since I know that -- since I know that the -- that New
10 Mexico has got abundant basalts in places in the
11 state, that was a concern of mine. Did I answer your
12 question?

13 MS. CZOSKI: Yes, that was good. Thank
14 you. I guess kind of along the same lines, do you
15 know how -- from your research literature review, do
16 you know how long data needs to be collected before
17 you can accurately map the subsurface?

18 DR. HELM-CLARK: Well, that's the --
19 you know, and -- and you've just run into the
20 significant problem of any -- any passive geophysical
21 method. You usually have to wait a couple of months
22 to get good images because your noise sources are the
23 ambient noise of the earth; earth tides, water tides,
24 trucks driving over the surface, microsisms.

25 It's -- it's the passive noise of the

1 earth that you're recording so you have to have a
2 longer recording period. So unlike -- unlike
3 traditional seismic, you can -- you know, you run
4 out -- you run your trucks, you -- you've done your
5 seismic survey in -- in a week.

6 It takes a couple of months to -- to do
7 all of the computerization, and "blam-o" you've got
8 your section. You're going to extend that out, you
9 know, several months to maybe as much as a year to get
10 your initial images.

11 MS. CZOSKI: Yeah. Thank you. That
12 makes sense. So more about induced seismicity. Do
13 you think having three seismometers at the -- you
14 know, around the well area is the best way to
15 characterize and locate an event?

16 DR. HELM-CLARK: It certainly would be
17 what I would recommend if I was designing the project.
18 You want three because you want to be able to
19 triangulate. You want them local so you can get the
20 best possible location and solutions for the seismic
21 activity that -- that you may induce by pumping CO2 in
22 your well.

23 I would -- I -- I -- you know, and --
24 and little -- little three-component portable
25 seismometer units are -- are relatively inexpensive

1 and easy to deploy. You buy three of them, you deploy
2 them in a -- you know, in a triangle around your well,
3 and you'll always have, you know, something on hand to
4 do quick, easy, fast determinations of -- of the
5 seismic activity in your immediate area. If you get
6 good enough gauges, you could even put them on the
7 national or the state network. I would favor it.

8 MS. CZOSKI: Thank you. And that
9 same -- those same seismometers that would help you
10 map and characterize an earthquake could be used for
11 ambient noise tomography too; correct?

12 DR. HELM-CLARK: No. When I say
13 traditional three-component seismometers, they are
14 very different from the sorts of specialized geophones
15 that you use for -- for seismic tomography.

16 They're -- they're recording in
17 different frequency bands and in different ways that
18 they're looking at -- well, you can see all of the
19 wave trains in traditional seismometers, but you have
20 to do a lot of signal analysis to -- to start pulling
21 out all the good information from the rail waves and
22 the lower waves and -- and the stuff on the back end
23 and the sides of the train, and I'm probably getting
24 too technical here. But no, they're -- they're
25 slightly different. They're measuring in different

1 frequency bands and they're looking at different wave
2 pathogens.

3 MS. CZOSKI: Okay. Thank you for the
4 clarification. Okay. So I have a few questions about
5 emergency response, and I'm going to refer to your
6 Exhibit 1, page 0023. And in number 1 and number 3,
7 it -- well, let's look at number 3.

8 It says "If an owner or operator
9 obtains evidence that an injected carbon dioxide
10 stream and associated pressure front may cause an
11 endangerment to a USDW," and then it gives several
12 things that need to happen. Do you think that there
13 could be an inclusion of saying endangerment to USDW
14 or leaks at the surface to help clarify when there
15 needs to be an emergency response?

16 DR. HELM-CLARK: I would be -- I would
17 be in favor of putting something about -- I -- I'd be
18 in favor of adding some verbiage that would indicate
19 that there should be some type of response if there's
20 a surface release.

21 MS. CZOSKI: Okay. Thank you. And in
22 your experience, do the -- do the applicants have --
23 in their emergency response, is it very tailored to
24 the exact area that they're in, or is it kind of -- do
25 they leave it kind of generic?

1 DR. HELM-CLARK: It -- it's pretty much
2 generic.

3 MS. CZOSKI: Do you have any extra
4 things that could be added in that could help make it
5 more community specific?

6 DR. HELM-CLARK: Well, what I'd add in
7 to make it more community specific would be to make
8 sure that communities were aware of the -- of the
9 potential dangers of -- of large CO2 releases. Hold
10 on two seconds. I need to take care of something with
11 my computer real quick. It'll just take a couple of
12 seconds. I had a cable that became detached. Now
13 reattached and I am back on line. What page were we
14 on? We were on page 0023; correct?

15 MS. CZOSKI: Yes.

16 DR. HELM-CLARK: And I would be in
17 favor of -- of including some kind of language that
18 when it releases to the surface. Because the -- the
19 real -- in my mind, looking at the sorts of dangers
20 you can potentially create by running a -- a Class VI
21 operation, the -- the one -- the one that's really --
22 the one -- in my mind, there -- there are three
23 dangers.

24 There's the new seismicity that's going
25 to cause property damage. There's the impact to -- to

1 subsurface resources; I include USDWs, potentially --
2 and -- and maybe somebody's producing oil or gas
3 reservoir. And then catastrophic releases at the
4 surface; the catastrophic release at the surface is
5 the one that's got the potential to kill people
6 quickly and a lot of them.

7 And that -- that's -- that's -- you
8 know, you -- you try to -- in engineering design, you
9 want to design so that -- try to prevent that
10 catastrophic accident. And that's why I am so focused
11 on -- on surface releases.

12 MS. CZOSKI: So yesterday, you talked a
13 little bit about the emergency that happened in
14 Mississippi. And even though that wasn't related to a
15 Class VI well, it was still a large CO2 release that
16 could have similar -- similar issues as a Class VI;
17 correct?

18 DR. HELM-CLARK: Yes.

19 MS. CZOSKI: Same risks? Okay.

20 DR. HELM-CLARK: And in fact, you know,
21 I can -- I -- I could -- I could -- when -- when
22 thinking about how -- how do I cause a Class VI
23 accident? Here's a scenario for you -- scenario for
24 you.

25 We have an earthquake, it's adequate

1 enough to -- to knock the piping askew. In between
2 the -- in between your pump and your -- and -- and
3 your well tree, you've got piping. You put a breach
4 in that pipe, you now have a large CO2 release that
5 might happen. I say it might happen because if your
6 emergency switches on your pump and your piping --
7 piping system are working adequately, they're going to
8 kill that pump immediately and you're not going to
9 have a release.

10 But if your backup systems and your
11 redundancy to prevent that CO2 flow doesn't work, now
12 you've got the potential for a large scale CO2
13 release, and people who are in the vicinity of that
14 well are in danger. And that's how I'm thinking. So
15 I don't -- you know, while the CO2 pipeline in -- in
16 Satartia was -- is -- you know, that was a big CO2 --
17 big commercial CO2 pipeline, and -- and the release
18 was large because both pipelines had a lot of stock.

19 And I -- I doubt that we're going to
20 have anywhere near that huge volume that you get off
21 of a CO2 pipeline at -- at a -- at a classic well
22 injection wellhead, but it's still a lot of CO2 and
23 the immediate vicinity of that well, that's going to
24 be a danger and you can potentially hurt people. And
25 of course, you'll shut down equipment that's running

1 on internal combustion engines if you concentrate
2 enough CO2 to shut down -- to shut down that
3 machinery.

4 So yeah, it's -- it's a worry. And
5 I -- and -- and when I say, you know, well, we
6 wouldn't make an analogy in between a pipeline
7 accident and a potential accident and a Class VI well;
8 well, you still have piping going into that well and
9 it can still fail just like a regular old pipeline can
10 fail. What's different are the volumes.

11 Now, there's another kind of CO2
12 volumetric accident that might happen with drilling a
13 a CO2 well or -- or actually any well, and that's a
14 blowout. Now, I -- I'm not really -- it's -- we're
15 not going to -- I don't think we have significant CO2
16 resources in the ground in New Mexico, except up in
17 the northeastern corner of the state where you get
18 close to the BNF Field in -- in Utah where they're
19 actually mining CO2.

20 It's -- it's -- but your CO2 well
21 blowouts have -- there have been incidences where they
22 haven't made the -- a region around a drill rig where
23 blowouts happening too dangerous to approach without
24 PPEs. Did that answer your question?

25 MS. CZOSKI: Yes. Thank you. Do

1 you -- so you mentioned providing first responders
2 with SCBAs; correct?

3 DR. HELM-CLARK: Yes.

4 MS. CZOSKI: Is there -- in -- in the
5 Mississippi example, you know, the -- the first
6 responders had no idea what was happening and what was
7 causing the -- the people to suffer and the cars to
8 stop working. Do you have any -- are there any, like,
9 sensors or anything that could be provided to first
10 responders to help them identify the -- you know, what
11 the emergency is at the beginning?

12 DR. HELM-CLARK: Well, most firemen are
13 already carrying a thing called a 4-in-1. It's a gas
14 meter, it -- it measures four different parameters.
15 The one that's really important would be the percent
16 oxygen. And don't quote me off the top of my head, I
17 think there is a CMOS detector that's good for CO₂;
18 CO₂ is an inert gas, it's got a funny ionization
19 potential, and it's hard to measure.

20 MS. CZOSKI: Okay. So there's not,
21 like, a CO₂ monitor that could be provided?

22 DR. HELM-CLARK: You know, I'm going to
23 say I'd have to look it up.

24 MS. CZOSKI: Okay. Thanks. I was just
25 curious. Let's see. Oh, and I had a question about

1 your Hall plots discussion. And in your opinion, how
2 often should Hall plots be made and provided to help
3 guide injection pressures?

4 DR. HELM-CLARK: They should be --
5 they -- they -- a Hall plot should be made -- I would
6 make a Hall plot monthly. And then I would report
7 them -- a Hall plot monthly, and I'd report them
8 either quarterly or -- or in the half-year report.

9 MS. CZOSKI: Okay. Thank you. And I
10 know you discussed the ADM site in Illinois yesterday,
11 and I believe you mentioned that there was CO2 leaking
12 from monitoring wells. Is that right?

13 DR. HELM-CLARK: Yes. The CO2 -- the
14 CO2 leaks were in the monitoring wells, not the
15 injection wells.

16 MS. CZOSKI: And do you happen to know
17 if those monitoring wells were constructed using,
18 like, CO2 corrosion-safe materials?

19 DR. HELM-CLARK: They were -- they were
20 used -- they -- they were -- they were both -- they
21 were both built using Chrome 13. One thing you don't
22 pick up when you read the -- one thing that you don't
23 pick up when you're reading the ADM reports is that
24 the -- the well that -- the well that had a really bad
25 failure, which was BW2, was actually the original

1 stratigraphy well for the entire -- in the entire
2 20-year spans of the project, so it was a 20-year-old
3 well.

4 If you look at the -- the National
5 Engineering Technology Laboratory reports reviewing
6 the history of CO2 flooding in the Permian Basin, they
7 made a determination that the effective lifetime of
8 wells involved in CO2 EOR is about 20 years. So we're
9 looking at a monitoring well that essentially -- whose
10 infrastructure was, by a National Labs estimation, at
11 the end of its usable life.

12 So it could be that that well was just
13 ready to go anyway. But it was built using, at the
14 time it was built, the best -- you know, what we
15 thought was good corrosion-resistant alloys for CO2
16 applications. We now know that Chrome 13 is not
17 something we should be using.

18 MS. CZOSKI: Okay. Thank you for that
19 background. I'm just making sure --

20 DR. HELM-CLARK: Hey, it's your
21 ballgame. Take your time.

22 MS. CZOSKI: No, I think you answered
23 all my questions. Thank you again for your time.

24 DR. HELM-CLARK: Well, thank you.

25 MS. ORTH: Thank you, Commissioner

1 Czoski.

2 Chair Chang, do you have questions from
3 the platform?

4 MR. CHANG: Actually, I think my fellow
5 commissioners have done a very thorough job.

6 I don't have any further additional
7 questions for you. Doctor, thank you very much for
8 testifying today.

9 DR. HELM-CLARK: Thank you for your
10 time.

11 MS. ORTH: All right.

12 Mr. Pavlik, is there any reason not to
13 excuse Dr. Helm-Clark? I -- I can't hear you.

14 MR. PAVLIK: Sorry. No, I don't
15 believe there is any reason not to excuse her. Thank
16 you.

17 MS. ORTH: All right.

18 Thank you very much, Dr. Helm-Clark.

19 DR. HELM-CLARK: Yeah. Thank you.
20 Have a good day.

21 MS. ORTH: Thank you.

22 So as I understand it, our witness
23 order from here will be Mr. Morgan, Ms. Wallace and
24 Ms. Wachtman, and then Dr. Harvey.

25 So, Ms. O'Grady.

1 MS. O'GRADY: Thank you. And good
2 morning, Madam Hearing Officer and members of the
3 Commission. We would like to start with an opening
4 statement, please.

5 MS. ORTH: Yes, please.

6 MS. O'GRADY: Madam Hearing Officer,
7 members of the Commission, my name is Morgan O'Grady,
8 and I'm a lawyer with the Western Environmental Law
9 Center. With me today is Rose Rushing. Together, we
10 represent the conservation groups, a coalition of Dine
11 C.A.R.E., Earthworks, San Juan Citizens Alliance,
12 Sierra Club Rio Grande Chapter, To Nizhoni Ani, and
13 the Western Environmental Law Center.

14 In this proceeding, the division asks
15 the Commission to adopt New Mexico's first rules
16 governing Class VI injection wells which inject carbon
17 dioxide deep underground for permanent geologic
18 sequestration. Conservation groups are here to
19 propose a regulatory framework built for New Mexico.

20 We propose a regulatory framework
21 designed to protect the public from the environmental
22 and financial consequences of groundwater
23 contamination. The consequences of failure of Class
24 VI wells are irreversible. Once a drinking water
25 aquifer is contaminated with CO2 mobilized metals or

1 displaced brine, it cannot be restored on any human
2 timescale. In a state where water is our most
3 precious resource, these rules must be right the first
4 time.

5 Geologic sequestration in deep saline
6 aquifers is a young industry with a thin track record.
7 Of the approximately 50 carbon capture and
8 sequestration facilities operating worldwide, no more
9 than 12 inject CO₂ into saline aquifers. And that the
10 saline aquifer projects with published operational
11 data -- Decatur, Illinois; In Salah, Algeria; Snøhvit,
12 Norway -- pre-injection model predictions have been
13 proven materially wrong in practice.

14 The science is clear that CO₂ injection
15 creates two distinct zones of endangerment to drinking
16 water. The first is the CO₂ plume itself. The
17 second, far larger, is a zone of elevated pressure
18 that can drive salty brine upward through legacy
19 wells, vaults, and fractures into overlying drinking
20 water aquifers and can trigger induced earthquakes; a
21 CO₂ plume roughly 10 kilometers across can generate a
22 pressure front extending more than 100 kilometers.

23 And the risks do not end when injection
24 ends. Injected CO₂ persists underground for centuries
25 to millennia, and Class VI wells must be monitored for

1 50 years or more before they are plugged, long after a
2 project has stopped generating revenue for its
3 operator.

4 Conservation groups' proposed
5 amendments to 19.15.41, 19.15.42, and 19.15.43 NMAC
6 are set forth in our Exhibit 1. Each amendment is
7 grounded in peer-reviewed science, the operational
8 record of existing sequestration projects, and lessons
9 learned by example in other regulatory programs. We
10 offer proposed amendments that follow the lead of
11 states that have already confronted these questions in
12 their own approved Class VI programs.

13 Conservation groups will present two
14 witnesses. Dr. Charles Harvey is a professor of civil
15 and environmental engineering at the Massachusetts
16 Institute of Technology where he has served on the
17 faculty for 27 years, and he is a member of the
18 National Academy of Engineering.

19 Dr. Harvey holds a PhD in geological
20 and environmental sciences from Stanford University.
21 He has published more than 60 peer-reviewed articles
22 on hydrogeology, including eight on carbon capture and
23 storage, and spent five years consulting from a carbon
24 sequestration -- for a carbon sequestration startup.
25 He knows this industry from the inside.

1 Peter Morgan is the legal and policy
2 director of the Center for Asset Retirement
3 Accountability. Mr. Morgan holds a JD and a Master of
4 Science from Stanford and spent 16 years as an
5 attorney for the Sierra Club focused on the cleanup of
6 fossil fuel extraction nationwide. He has testified
7 before Congress on financial assurance reform, and he
8 testified before this commission in the recent orphan
9 well rulemaking that the Commission just concluded.

10 Turning to conservation groups'
11 proposals. First, the rules must define the danger
12 zone. The area of review is arguably the most
13 important parameter in a Class VI permit. Legacy well
14 evaluation, corrective action, monitoring, and seismic
15 coverage all derive from it. If the area of review is
16 undersized, every safeguard will be insufficient and
17 the gaps cannot be fixed after the fact.

18 Dr. Harvey will explain why OCD's
19 proposal invites undersizing. It lets operators draw
20 the area of review around the plume rather than the
21 larger pressure zone, relies on a single model run
22 when reservoir models carry great uncertainty, and
23 models each project in isolation when neighboring
24 projects' pressure fields overlap and merge.

25 Our amendments require pressure-based

1 delineation of both the plume and pressure zones,
2 ensemble modeling, coordinated modeling where projects
3 share a formation, and reevaluation against monitoring
4 data. Second, protections must be enforceable and
5 durable. Action thresholds must be fixed and
6 quantitative before a permit issues, and safety
7 critical responses must be mandatory rather than
8 discretionary.

9 Because ordinary cement and steel
10 degrade on contact with CO2-bearing brine,
11 CO2-resistant materials must be required wherever a
12 well may meet the plume. Plume stabilization must be
13 required -- or must be demonstrated through
14 monitoring, not assumed from potentially flack models.

15 And the option to petition to shorten
16 the 50-year post-injection site care period before
17 injection even ceases should be eliminated. The state
18 must build its own lasting oversight capacity because
19 New Mexico's duty to protect its water does not expire
20 when a permit does.

21 Third, financial assurance must be
22 adequate for this model technology. Mr. Morgan will
23 explain why New Mexicans deserve a financial assurance
24 framework that guarantees resources exist even if the
25 operator does not, creates an incentive to plug

1 promptly, and shifts risk to a surety that underwrites
2 the operator. Self-insurance does none of this.

3 The U.S. ran that experiment with coal.
4 The three largest operators in the nation were allowed
5 to self-bond, held over a billion dollars in cleanup
6 liabilities, and all went bankrupt leaving taxpayers
7 on the hook for the cleanup.

8 Conservation groups' amendments
9 eliminate self-insurance and corporate guarantees and
10 provide that if an operator stops paying and offers no
11 replacement financial assurance, the funds would go to
12 the state. Nor can the commission simply lean on the
13 storage stewardship fund; its fee schedule is unset,
14 its adequacy unknown, and it may come to be
15 overextended.

16 This commission knows from New Mexico's
17 orphaned oil and gas wells what happens when cleanup
18 is not backed by meaningful financial assurance. The
19 liability lands on the state, public funds, and New
20 Mexico communities. New Mexico has the opportunity,
21 and having seen other programs fail, the obligation to
22 adopt Class VI rules that protect its water, its
23 communities, and its treasury. Conservation groups'
24 amendments would do exactly that.

25 We thank the Commission, the hearing

1 officer, and counsel for the substantial effort this
2 rulemaking requires, and we look forward to presenting
3 the testimony of Mr. Morgan and Dr. Harvey. With
4 that, we will present our first witness, Mr. Morgan.

5 MS. ORTH: Thank you, Ms. O'Grady.

6 Mr. Morgan, would you spell your first
7 and last name, please?

8 MR. MORGAN: It's P-E-T-E-R,
9 M-O-R-G-A-N.

10 MS. ORTH: Do you swear or affirm to
11 tell the truth?

12 MR. MORGAN: I do.

13 MS. ORTH: Thank you.

14 Please go ahead.

15 MS. RUSHING: Thank you, Hearing
16 Officer and Commission. And before we begin, we are
17 just pulling up our demonstratives on screen.

18 And I think, Morgan, you need to be
19 given screen sharing?

20 MS. O'GRADY: Yes.

21 MS. RUSHING: Okay, everybody. Thank
22 you so much.

23 And, Mr. Morgan, please state your
24 name.

25 MR. MORGAN: Peter Morgan.

1 MS. RUSHING: Great. How are you doing
2 today?

3 MR. MORGAN: I'm doing well, thanks.
4 How are you?

5 MS. RUSHING: Very good. Where are you
6 employed, and what is your position?

7 MR. MORGAN: I am legal and policy
8 director for the Center for Asset Retirement
9 Accountability, or CARA, whose mission is to address
10 the national problem of unplugged oil and gas wells,
11 including through regulatory solutions.

12 My work involves understanding existing
13 regulatory requirements for federal and state level,
14 identifying gaps and flaws with those requirements
15 that lead to cleanup and decommissioning obligations
16 being passed on to the public, and proposing solutions
17 to address those gaps and flaws.

18 MS. RUSHING: What is your educational
19 background?

20 MR. MORGAN: I have a Bachelor of Arts
21 from Middlebury College and a JD from Stanford Law
22 School and a Master of Science from Stanford's
23 Interdisciplinary Program in Environment and
24 Resources.

25 MS. RUSHING: Can you briefly describe

1 your work background?

2 MR. MORGAN: Sure. Prior to my current
3 position with CARA, I worked for 16 years as an
4 attorney for the Sierra Club where I focused on issues
5 around the operation and cleanup of fossil fuel
6 extraction facilities nationwide, with a concentration
7 on oil and gas operations and coal mines.

8 And through this work, I have expertise
9 in state and federal regulatory requirements for
10 financial assurance from industrial operators for
11 plugging, abandonment, and site remediation, including
12 understanding the strengths and weaknesses in these
13 regulatory schemes.

14 In 2023, I testified before Congress at
15 a hearing at the House Subcommittee on Energy and
16 Mineral Resources on the need for improved regulations
17 to strengthen financial assurances, restrict transfer
18 of obligations, and address other issues related to
19 cleaning up fossil fuel extraction sites. And in
20 2025, I testified before this commission on the need
21 for improved financial assurance requirements for oil
22 and gas operators in New Mexico.

23 MS. RUSHING: Is conservation groups'
24 Exhibit 2 an accurate copy of your resume?

25 MR. PAVLIK: Yes.

1 MS. RUSHING: I'm not sure if I should
2 do this throughout, but I'll move to admit Exhibit 2.
3 Or should I do it at the end? Okay. No, actually,
4 I'll just move it to evidence at the end. Apologies.

5 Mr. Morgan, you supplied direct and
6 rebuttal testimony on behalf of the conservation
7 groups in this matter, conservation groups' Exhibits 3
8 and 25 respectively?

9 MR. MORGAN: Yes.

10 MS. RUSHING: Is that testimony
11 accurate to the best of your knowledge, and do you
12 adopt it?

13 MR. MORGAN: Yes.

14 MS. RUSHING: In broad terms, what
15 opinions will you provide today?

16 MR. MORGAN: I will provide opinions on
17 the conservation groups' proposed amendments to the
18 financial responsibility provisions in 19.15.43 9F
19 NMAC governing three areas.

20 First, self-insurance is a
21 fundamentally flawed approach that would expose the
22 state to significant risk and the Commission should
23 not adopt it. Second, corporate guarantees carry
24 similar risks and should likewise be eliminated.
25 Third, the rules cancellation provision should be

1 clarified so that cancellation of a financial
2 assurance instrument for failure to pay does not
3 transfer risk from providers to the state and
4 taxpayers.

5 Overall, my recommendations are
6 intended to help prevent carbon dioxide injection
7 wells from being orphaned without adequate financial
8 assurance in place to provide for their plugging and
9 to ensure the agency has access to adequate resources
10 to plug any wells that are orphaned.

11 MS. RUSHING: Before you discuss the
12 conservation groups' specific proposals, please
13 discuss the role of financial assurance in general.
14 Why is adequate financial assurance an important
15 component of effective carbon sequestration
16 regulations?

17 MR. MORGAN: So effective financial
18 assurances are a critical component of a successful
19 Class VI program because they help ensure that
20 injection wells will not be left in a condition
21 allowing fluid movement that could endanger
22 underground sources of drinking water, either during
23 operations or during the required post-plugging
24 monitoring period.

25 EPA has emphasized that the role of

1 financial assurance is to ensure that financial
2 resources will be available for corrective action,
3 ejection well plugging, post-injection site care, site
4 closure, and emergency and remedial response.

5 Although Class VI wells are a
6 relatively new class of industrial activity,
7 regulators can look to industries with similar
8 physical impacts and life cycles, including coal and
9 oil and gas extraction, to anticipate the problems
10 that arise when financial assurance is inadequate.

11 Like oil and gas wells, carbon dioxide
12 injection wells provide access to a finite resource.
13 Here, it's pore space. Once the available pore space
14 is filled or the operator otherwise ceases injection,
15 the well must be plugged and the site monitored,
16 typically for decades. And like oil and gas
17 operators, Class VI operators are subject to changes
18 in commodity prices, tax policy, and the broader
19 regulatory landscape that can impact profitability and
20 solvency.

21 The key dynamic is that the significant
22 costs of plugging, monitoring, and any corrective
23 action come due after the project has stopped
24 generating revenue, whether through tax credits or
25 otherwise. Plugging and decommissioning is a pure

1 cost with no potential to produce additional revenue,
2 and Class VI wells carry significant additional
3 post-plugging costs not typically encountered with oil
4 and gas wells.

5 The post-injection monitoring stage
6 alone is expected to last at least 50 years at the
7 operator's expense. It is foreseeable that some
8 operators will go out of business or abandon their
9 obligations before completing plugging or during the
10 lengthy monitoring period leaving the regulator with
11 no assets to claim.

12 Effective financial assurance programs
13 protect the state from these inherent risks in three
14 ways. First, the financial assurance provides a
15 backstop, assuring that some resources will be
16 available if the operator fails to complete its
17 obligations.

18 Second, maintaining the financial
19 assurance imposes ongoing costs on the operator,
20 premiums, and collateral requirements that are only
21 released when the operator completes the covered phase
22 of the project, creating an incentive for timely
23 plugging and site care.

24 Third, financial assurance requirements
25 shift risk away from the state and onto a third party,

1 such as a surety bond provider, which conducts its own
2 screening of an operator's reliability and likelihood
3 of default.

4 MS. RUSHING: Thank you. Why isn't it
5 sufficient to rely on the regulatory requirements and
6 OCD's proposed rules that require operators to plug
7 injection wells once injection ceases?

8 MR. MORGAN: Well, it's because the
9 majority of those costs won't come due until after the
10 project has stopped qualifying for tax credits or
11 otherwise generating revenue. Operators face a
12 powerful incentive to avoid them, regardless of what
13 the regulations require, including by filing for
14 bankruptcy.

15 Financial assurance instruments counter
16 that incentive. An instrument specific to a phase
17 such as plugging is released only when that phase is
18 complete which promotes prompt performance and brings
19 down the operator's operating costs.

20 MS. RUSHING: New Mexico will also
21 maintain a geologic carbon dioxide long-term Storage
22 Stewardship Fund. Why not just rely on the
23 stewardship fund to make up for any shortfall?

24 MR. MORGAN: Well, the plugging of
25 abandoned injection wells is only one of many

1 permitted uses of the stewardship fund, all drawing
2 from the same pot. The adequacy of the fund is
3 entirely unknown at this point.

4 Estimates for future Class VI projects
5 in New Mexico are speculative, and the commission has
6 not yet established the fee schedule intended to meet
7 the fund's projected needs, and funds of this type are
8 also sometimes rated by legislatures to cover general
9 fund shortfalls.

10 Furthermore, reliance on a general fund
11 creates a moral hazard. Operators may conclude that
12 they are better off avoiding the cost of plugging and
13 just turning their wells over to the state. Once one
14 operator sees its competitors externalizing those
15 costs, it will do the same, producing a vicious cycle
16 and an unsustainable burden on the fund.

17 MS. RUSHING: Let's turn to
18 conservation groups' specific proposals, beginning
19 with 19.15.43.9.F(1)(a)(v) NMAC currently on the
20 screen. What is the basis for the proposed amendment
21 striking self-insurance from the allowable forms of
22 financial assurance?

23 MR. MORGAN: So self-insurance, which
24 is sometimes called self-bonding, is a fundamentally
25 flawed approach. No matter how financially secure a

1 company appears, it can always fail. And when it
2 does, the absence of any third-party financial
3 assurance significantly compromises the regulator's
4 ability to pursue necessary enforcement.

5 The experience under the Federal
6 Surface Mining Control and Reclamation Act, which
7 governs coal mining, is instructive. In 2015 and
8 2016, the three largest coal mine operators in the
9 United States, Alpha Natural Resources, Arch Coal, and
10 Peabody Energy, had been allowed to self-bond
11 following review of their financial condition.

12 Collectively, they held over a billion
13 dollars in self-bonded cleanup liabilities. All three
14 went bankrupt following a drop in commodity prices.
15 Because there was no third-party bonding in place, the
16 companies had enormous leverage over regulators in the
17 bankruptcies. Regulators were forced to settle one
18 cleanup claim of \$150 million for just \$5.4 million,
19 and another claim of \$100 million for just \$3.4
20 million.

21 The U.S. Government Accountability
22 Office assessed self-bonding in the wake of those
23 bankruptcies and concluded that self-bonding presents
24 a risk to the government, finding it is difficult to
25 ascertain the financial health of an operator, to

1 determine whether the operator qualifies for
2 self-bonding, and to obtain a replacement for existing
3 self-bonds when an operator no longer qualifies.

4 As GAO explained, financial
5 deterioration can occur quickly, and a company that no
6 longer meets the financial test may be unable to
7 obtain or afford replacement assurance, meaning the
8 cost falls on taxpayers. The Interstate Mining
9 Compact Commission's executive director described the
10 resulting catch-22. If the state insists on
11 alternative financial assurance from a distressed
12 operator, the demand itself only increases the threat
13 to the company solvency.

14 These concerns led to the U.S. Bureau
15 of Land Management to eliminate self-bonding for the
16 hard rock mining industry, determining that a
17 self-bond is less secure than other types of financial
18 assurance, especially where commodity prices
19 fluctuate, and that operators otherwise eligible to
20 self-bond should have no significant problem obtaining
21 another type of financial assurance.

22 MS. RUSHING: Are there elements of a
23 Class VI program that make it particularly ill-suited
24 to the use of self-bonding?

25 MR. MORGAN: Yes. Class VI facilities

1 require financial assurance coverage for much longer
2 than typical industrial projects, with the longest
3 period post-injection site care and monitoring
4 expected to last at least 50 years coming after the
5 well is plugged and the facility is no longer
6 generating revenue.

7 The risk of an operator going out of
8 business over the many decades where monitoring,
9 maintenance, and potential corrective action are
10 required is too high to allow self-bonding. Once a
11 self-bonded operator shows signs of financial
12 distress, it is typically too late to secure a
13 replacement.

14 MS. RUSHING: Don't EPA's rules for
15 Class VI regulatory programs expressly authorize the
16 use of self-insurance?

17 MR. MORGAN: EPA's Class VI rules,
18 including the self-insurance provisions, were
19 finalized in 2010 before the collapse of the
20 self-bonded coal operators. EPA did not have the
21 opportunity to incorporate the lessons of those
22 bankruptcies into its rule. New Mexico does have that
23 opportunity and should learn from those failures.
24 Notably, both Colorado and Louisiana declined to adopt
25 self-bonding in their Class VI privacy rules.

1 MS. RUSHING: Okay. What is the basis
2 for the proposed amendment to 19.15.43.9.F(1)(a)(vii)
3 currently on screen relating to any other instruments
4 satisfactory to the director?

5 MR. MORGAN: This provision is
6 unnecessary because the other instruments specified in
7 the draft rule are already adequate.

8 MS. RUSHING: Thank you. And what is
9 the basis for the proposed amendment to
10 19.15.43.9.F(1)(b)(ii) currently on the screen
11 relating to cancellation of financial assurance?

12 MR. MORGAN: So as written, the rule is
13 ambiguous about what follows if a financial
14 institution seeks to cancel a financial assurance
15 instrument and no replacement is provided.

16 The proposed amendment clarifies that
17 if no replacement financial instrument is provided,
18 the original instrument is forfeit, and the financial
19 institution must release the funds to the director.
20 That avoids any scenario where the operator is in
21 financial distress and there's no instrument in place
22 to cover plugging, monitoring, or corrective action.

23 Allowing a provider to cancel an
24 instrument for failure to pay would defeat the entire
25 purpose of requiring financial assurance. If an

1 operator goes out of business and fails to pay to
2 maintain the instrument, that is exactly the moment
3 when it is most critical for the assurance to be in
4 place. No other provider will be willing to write a
5 replacement for an operator that has just failed to
6 pay. The only circumstance under which cancellation
7 should be possible is where a replacement financial
8 assurance is already in place.

9 North Dakota's approved Class VI
10 program incorporates a similar clarifying edit stating
11 that if an operator cannot provide a replacement
12 financial assurance instrument, any funds from the
13 instrument being canceled must be released to the
14 commission within 60 days.

15 MS. RUSHING: Thank you. What is the
16 basis for the proposed amendment to
17 19.15.43.9.F(1)(f)(i) currently on the screen relating
18 to combinations of instruments?

19 MR. MORGAN: So for the reasons I have
20 discussed, self-insurance is a fundamentally flawed
21 approach so the reference to self-insurance in this
22 provision should also be removed.

23 MS. RUSHING: What is the basis for the
24 proposed amendment to 19.15.43.9.F(1)(f)(v) currently
25 on the screen setting forth the financial test

1 criteria for self-insurance?

2 MR. MORGAN: Again, self-insurance
3 should just not be adopted at all. The SMCRA
4 self-bonding criteria for coal mine operators were at
5 least as stringent as the criteria in the proposed
6 rule, including a higher required credit rating and a
7 stricter ratio of total liabilities to net worth, and
8 they still failed to predict or prevent the failure of
9 operators holding hundreds of millions of dollars in
10 reclamation liability. Financial condition criteria
11 simply cannot predict an operator's future financial
12 health over the life of these Class VI obligations.

13 MS. RUSHING: Finally, what is the
14 basis for the proposed amendment to -- and this is the
15 last time I'll do a string of numbers --
16 19.15.43.9.F(1)(f)(vi) relating to corporate
17 guarantees?

18 MR. MORGAN: This provision would allow
19 an owner or operator that cannot meet the financial
20 test criteria to rely on a corporate parent's
21 guarantee instead. It should be eliminated for the
22 same reasons as self-insurance.

23 Corporate parents are subject to the
24 same dynamics and risks as their subsidiaries, and
25 financial condition criteria are similarly inadequate

1 to predict or prevent bankruptcies. Both Colorado and
2 Louisiana omitted corporate guarantees as a financial
3 responsibility option in their Class VI programs.

4 MS. RUSHING: Thank you, Mr. Morgan,
5 for that summary of your direct testimony. We will
6 now move on to your summary of rebuttal testimony. In
7 broad terms, what opinions does your rebuttal
8 testimony provide?

9 MR. MORGAN: My rebuttal testimony
10 responds to the testimony of Oxy's witness,
11 Ms. Wallace, on two financial assurance issues under
12 proposed 19.15.43.9.F NMAC.

13 First, I respond to her recommendation
14 that the Commission adopt the financial test from
15 EPA's hazardous waste regulations, implementing the
16 Resourced Conservation and Recovery Act, or RCRA, as
17 the criteria for determining an operator's eligibility
18 for self-insurance. Second, I respond to her proposal
19 to remove the requirement that an operator demonstrate
20 adequate net worth capital in order to qualify for
21 self-insurance.

22 MS. RUSHING: Oxy's witness recommended
23 that the Commission adopt the financial tests set
24 forth in EPA's hazardous waste regulations
25 implementing RCRA as the criteria for determining an

1 operator's eligibility for self-insurance. What is
2 your response?

3 MR. MORGAN: So as an initial matter,
4 and as thus discussed in my direct testimony, I
5 strongly urge the Commission not to include
6 self-insurance as an allowable form of financial
7 assurance at all.

8 Eliminating the self-insurance option,
9 including striking Section 19.15.43.9.F(1)(f)(v) in
10 its entirety would obviate the need to consider Ms.
11 Wallace's recommendation. However, if the Commission
12 were to allow self-insurance, it should adopt a
13 financial fitness test much more stringent than the
14 RCRA test Ms. Wallace proposes.

15 Under that test, an operator could
16 qualify for self-insurance by satisfying criteria
17 extremely similar to those that prove to be entirely
18 inadequate to predict or address the bankruptcies of
19 large coal mine operators under the Federal Surface
20 Mining Control and Reclamation Act, or SMCRA, which I
21 discussed in my direct testimony.

22 Three of the largest coal mine
23 operators in the United States were determined to meet
24 the SMCRA criteria and were allowed to self-insure.
25 When commodity prices fell, all three self-insured

1 operators filed for bankruptcy.

2 The lesson from the failure of
3 self-insurance in this macro context is not that there
4 is some optimal ratio of assets or net worth to
5 liabilities that could render self-insurance an
6 acceptable form of financial insurance; the lesson is
7 that the entire premise, that a formula can predict an
8 operator's future financial health, is inherently
9 flawed and likely to fail. That is particularly true
10 whereas here, the financial assurance obligations will
11 stretch over decades.

12 MS. RUSHING: Oxy's witnesses also
13 propose removing the requirement that an operator show
14 adequate networking capital to qualify for
15 self-insurance on the theory that holding larger cash
16 balances is inefficient, costly, and reduces
17 opportunities for companies to grow. What is your
18 response?

19 MR. MORGAN: So this would be a further
20 weakening of an already inadequate financial assurance
21 test. If an operator does not maintain adequate
22 networking capital, how will it be able to respond to
23 and address the obligations for which financial
24 assurance must be -- must be available for Class VI
25 wells, including corrective action, injection well

1 plugging, post-injection site care, site closure, and
2 emergency and remedial response?

3 If a pipeline or wellhead ruptures or
4 something else goes wrong in a project, immediate
5 corrective action will be required. Operators with
6 adequate working capital can deploy resources to
7 address those issues or reimburse a third party that
8 must act without imperiling the overall financial
9 structure of that company.

10 In contrast, an operator with narrow
11 margins or one that routinely prioritizes other
12 outlays, such as shareholder returns, may not be able
13 to satisfy those obligations. An operator without
14 adequate liquid resources may then be forced into
15 bankruptcy where environmental and cleanup liabilities
16 are typically given low priority.

17 The bankruptcy of an operator that has
18 been allowed to rely on self-insurance will pass
19 significant costs onto the state and its taxpayers.
20 And for Class VI wells in New Mexico, those costs are
21 substantial. The Energy Minerals and Natural
22 Resources Department has estimated the expenses for
23 well-plugging, post-injection monitoring, potential
24 emergency and remedial response, and site closure for
25 a single typical New Mexico Class VI project at \$10

1 million to \$75 million.

2 The economic literature on financial
3 assurance does recognize that certain forms of
4 financial assurance can tie up a firm's operating
5 capital. But the solution recommended by economists
6 is not to eliminate working capital requirements, it
7 is to rely instead on third-party bonding. For a fee,
8 a surety agrees to cover the amount of the bond if the
9 operator fails to fulfill its obligation, which also
10 transfers a portion of the default risk from the
11 public to the surety provider.

12 The goal is not to reduce an operator's
13 liquidity constraints to zero. The goal is to balance
14 the constraints on the operator against the risk to
15 the public posed by inadequate financial assurance.
16 If an operator truly wishes to minimize the amount of
17 working capital it maintains, as Ms. Wallace's
18 testimony suggests, surety bonding and other
19 alternative forms of financial assurance offer a
20 solution that does not require the Commission to
21 further weaken the criteria for self-insurance.

22 MS. RUSHING: Thank you for your
23 summary of your rebuttal testimony, Mr. Morgan.

24 Mr. Morgan will now give surrebuttal.

25 MS. ORTH: Thank you.

1 MS. RUSHING: Mr. Morgan, are you ready
2 for surrebuttal?

3 MR. MORGAN: Yep.

4 MS. RUSHING: Mr. Morgan, Oxy witness
5 Caroline Wachtman claims at paragraph 32 of her
6 rebuttal testimony that eliminating self-insurance
7 would place New Mexico out of step with the federal
8 program and most primacy states, noting that EPA
9 authorized the self-insurance at 40 C.F.R. with
10 Section 146.85, and that North Dakota, Wyoming, and
11 Texas include self-bonding in their primacy programs,
12 and that if eliminating it could deter -- oh, and that
13 eliminating it could deter Class VI investment. I
14 apologize. What is your response?

15 MR. MORGAN: The standards in EPA's
16 rule are intended to set a floor, not a ceiling, for
17 individual state programs. Eliminating self-insurance
18 is a common sense change that would make the New
19 Mexico program more protective of communities and
20 taxpayers than the EPA program. This is the option
21 taken by Colorado and Louisiana which both enacted
22 state programs that do not allow self-insurance.

23 Furthermore, EPA's program was
24 promulgated in 2010 prior to the bankruptcies of
25 self-bonded coal mine operators that occurred in 2015

1 and 2016, and that exposed the fundamental flaws in
2 any financial assurance program that allows
3 self-insurance. New Mexico has the benefit of that
4 knowledge and should take advantage of it by omitting
5 self-insurance from its Class VI program.

6 MS. RUSHING: Thank you. And
7 Ms. Wachtman claims at Paragraph 33 that the RCRA
8 financial test at 40 C.F.R. 261, Section 143(e)(i) is
9 appropriate because RCRA governs hazardous waste
10 facilities with comparable or longer post-closure
11 obligations and has functioned reliably for decades.
12 What is your response?

13 MR. MORGAN: Neither the testimony of
14 Ms. Wachtman nor Ms. Wallace includes any
15 documentation or analysis indicating that the RCRA
16 criteria for self-insurance have been successfully
17 implemented. There's no evidence that EPA has been
18 able to recover funds from self-insured operators. It
19 is not enough to simply reference the existence of the
20 RCRA regulations.

21 If the Commission allows the use of
22 self-insurance, the state and taxpayers will assume
23 the risk of paying for the monitoring, remedial
24 response, plugging, and site -- site closure costs for
25 Class VI facilities. There is too much at stake in

1 that decision to base it on unsupported assertions.

2 In contrast, my direct and rebuttal
3 testimony documents the clear failure of the very
4 similar self-insurance criteria employed under SMCRA.
5 My testimony also documents multiple regulators,
6 including the BLM for Hard Rock Mining, and Colorado
7 and Louisiana and their Class VI primacy applications
8 who have opted to forego the use of self-insurance.
9 These are the examples the Commission should look to.

10 MS. RUSHING: Ms. Wachtman claims at
11 paragraph 35 that your proposal to delete "Any other
12 instrument satisfactory to the director," is contrary
13 to the federal regulations and the director's need for
14 flexibility and precludes the director from utilizing
15 future financial assurance products. What is your
16 response?

17 MR. MORGAN: To be effective, financial
18 assurances must be vetted and reliable from before the
19 initial ground disturbing work begins through to when
20 the project is deemed complete. Once an operator is
21 in financial distress, it's too late to replace an
22 inadequate financial assurance. If an operator is in
23 distress and OCD realizes that the financial assurance
24 is unreliable, it will not be possible to compel the
25 operator to provide a replacement.

1 For that reason, the Commission should
2 limit the set of acceptable financial assurances to
3 those vetted by the Commission and deemed to be
4 reliable. To the extent new reliable forms of
5 financial assurance emerge in the future, the
6 Commission can open a new public rulemaking to
7 consider whether to include them in the state's
8 program.

9 MS. RUSHING: Previous witnesses have
10 urged the Commission to preserve flexibility rather
11 than adopt categorical requirements and to trust the
12 director to make the right call on a case-by-case
13 basis. What is the problem with that approach in the
14 financial assurance context?

15 MR. MORGAN: Questions regarding the
16 reliability of financial assurance options are highly
17 complicated, technical matters that require decision
18 makers to balance multiple considerations. Such
19 questions are best addressed in formal rulemakings
20 with the benefits of expert guidance rather than on an
21 ad hoc basis.

22 In practice, the director may need to
23 make a financial assurance determination under duress
24 at the point where there are no good options
25 remaining. In such a scenario, there's a strong need

1 for regulatory guardrails. So take, for example, a
2 situation where the current operator of an existing
3 Class VI facility is in financial trouble and seeks to
4 transfer the facility to a new operator. Maybe this
5 is occurring in the context of a bankruptcy
6 proceeding.

7 A new operator is identified who
8 proposes to assume control of the facility but is
9 unable or unwilling to provide one of the enumerated
10 forms of financial assurance. There would be enormous
11 pressure on the director in such a scenario to accept
12 an alternate form of financial assurance, say a
13 corporate guarantee, in order to facilitate the
14 transaction and avoid being blamed for the facility's
15 closure, even if the director had concerns about the
16 ultimate reliability of the replacement financial
17 assurance.

18 But this would just kick the can down
19 the road and may expose the state to greater risk and
20 cost if the replacement financial assurance proves to
21 be less effective than the existing one. The director
22 would be in the strongest negotiating position in such
23 a scenario if he were able to insist on one of the
24 forms of financial assurance authorized under the
25 rule.

1 MS. RUSHING: Mr. Morgan, setting aside
2 the substance of any particular instrument, what does
3 the state actually gain by fixing a financial
4 assurance requirement in the rule itself rather than
5 establishing it through guidance or leaving it to
6 approval on a permit by permit basis?

7 MR. MORGAN: So there are really three
8 benefits to setting out all allowable forms of
9 financial assurance in the rule. First, this approach
10 involves notice and comment and public participation,
11 and therefore results in a decision informed by the
12 expertise and experience of multiple stakeholders
13 representing a diversity of perspectives.

14 Second, this approach provides finality
15 and predictability for the regulated community,
16 allowing them to make informed decisions. This is
17 particularly important in the Class VI context where
18 operators need to make plans on decades-long
19 timeframes.

20 Finally, as I described in my prior
21 answer, this approach establishes guardrails that can
22 help avoid bad decisions that avoid or delay
23 short-term problems but lead to bigger problems down
24 the road. At the end of the day, the decision of what
25 financial assurance to accept is a decision of

1 implications for the state measured in the tens of
2 millions of dollars, hundreds of millions if an
3 operator has multiple facilities.

4 Limiting the financial assurance
5 options to just those enumerated in the rule still
6 allows for significant flexibility. The director and
7 industry applicants would still have five forms of
8 financial assurance to choose among: trust funds,
9 surety bonds, letters of credit, insurance, and escrow
10 accounts.

11 MS. RUSHING: Thank you, Mr. Morgan.

12 This ends Mr. Morgan's testimony. He
13 now stands for cross-examination and questions from
14 the commission.

15 MS. ORTH: All right. Thank you.
16 Let's take a 15-minute break before we do that. Come
17 back at 10:35. Thank you.

18 (Off the record.)

19 MS. ORTH: When we broke, Mr. Morgan
20 had completed his direct rebuttal and surrebuttal
21 testimony. We'll now go to questioning.

22 Mr. Tucker, do you have questions of
23 Mr. Morgan?

24 MR. TUCKER: I do. Thank you very
25 much.

1 MS. ORTH: Thank you.

2 MR. TUCKER: Good morning, Mr. --

3 sorry. Good morning, Mr. Morgan. Can you hear me?

4 MR. MORGAN: Yes, I can. Good morning.

5 MR. TUCKER: Good morning. Mr. Morgan,
6 on page 2 of your direct testimony, you testified that
7 you're familiar with the federal Class VI regulations;
8 correct?

9 MR. MORGAN: Yes.

10 MR. TUCKER: And you cite the Federal
11 Register Notice for the final Class VI rule, which was
12 published on December 10, 2010, in both your direct
13 and rebuttal testimony; correct?

14 MR. MORGAN: Yes.

15 MR. TUCKER: You would agree that the
16 preamble to the final rule reflects EPA's reasoning in
17 adopting the Class VI well rules?

18 MR. MORGAN: Yes.

19 MR. TUCKER: Okay. And EPA's
20 regulations at 40 C.F.R. Section 146.85 authorize the
21 use of self-insurance or corporate guarantees?

22 MR. MORGAN: Yes.

23 MR. TUCKER: And OCD has incorporated
24 those federal rules into its proposal at proposed
25 Section 19.15.43.9.F NMAC?

1 MR. MORGAN: Yes.

2 MR. TUCKER: All right. I'd like to
3 turn to the Federal Register Notice for the final
4 rule.

5 And just get permission to share my
6 screen.

7 MS. APODACA: Yes, you have the
8 permissions.

9 MR. TUCKER: So I'd like to turn to the
10 Federal Register Notice for the final rule,
11 specifically the preamble at 75 Fed. Reg. 77,269. If
12 you look at the yellow section I have highlighted,
13 this -- this notes that EPA solicited input from the
14 Environmental Financial Advisory Board to develop
15 recommendations on financial responsibility for Class
16 VI wells; correct?

17 MR. MORGAN: That's what it says.

18 MR. TUCKER: And one of the
19 recommendations, and this is highlighted in pink, is
20 that EFAB agreed that both self-insurance and
21 third-party insurance should be made available to
22 responsible parties; correct?

23 MR. MORGAN: Yes.

24 MR. TUCKER: Your testimony didn't
25 address EFAB's recommendation; did it?

1 MR. MORGAN: It did not.

2 MR. TUCKER: Okay, thank you. I'd like
3 to move up just a little bit.

4 MR. MORGAN: Oh, sorry. Can I -- it
5 did not because that recommendation was rendered moot
6 by the subsequent developments of the 2015 and 2016
7 coal mine operator bankruptcies which occurred five
8 and six years after that recommendation was made and
9 which materially altered the landscape of
10 understanding of how self-insurance and self-bonding
11 operates.

12 And as I noted in my testimony,
13 following that failure in SMCRA, the GAO issued a
14 report strongly recommending against the use of
15 self-insurance or self-bonding. BLM moved away from
16 the use of self-insurance for Hard Rock Mining, and
17 both Louisiana and Colorado declined to incorporate
18 self-insurance into their program.

19 So I think, you know, any discussion of
20 the reliability of self-insurance that predates those
21 2015 or 2016 coal mine operator bankruptcies really
22 has little relevance to today's discussion.

23 MR. TUCKER: Since the 2010 financial
24 role, the EPA has not amended 40 C.F.R. 156.85;
25 correct?

1 MR. MORGAN: That is correct.

2 MR. TUCKER: Okay, thank you. So
3 the -- the financial rules from 2010 are still in
4 place?

5 MR. MORGAN: They're still in place as
6 a --

7 MR. TUCKER: Thank you.

8 MR. MORGAN: -- as a floor, but states
9 are free to adopt more stringent requirements as,
10 again, both Louisiana and Colorado have opted to do.

11 MR. TUCKER: So, Mr. Morgan, I'd like
12 to turn to the passage I've highlighted in green. The
13 preamble states that EPA's guidance on tangible net
14 worth thresholds will help ensure that the risk borne
15 by the public from a self-insured owner or operator is
16 no greater than the riskiest scenario where
17 independent third-party instruments are used. Do I
18 have that correct?

19 MR. MORGAN: That's what the text says.
20 Again, any discussion --

21 MR. TUCKER: Thank you.

22 MR. MORGAN: -- from before 2015 is --
23 is pretty moot, I -- I believe.

24 MR. TUCKER: Mr. Morgan, I'd like to
25 ask you a question. So based on that sentence in

1 green, is it fair to say that EPA's state objective
2 was not to prohibit self-insurance, but to calibrate
3 the self-insurance criteria so that the public bears
4 no greater risk than under third-party instruments?

5 MR. MORGAN: As a snapshot of EPA's
6 thinking in 2010, that appears accurate.

7 MR. TUCKER: Okay. Thank you very
8 much.

9 I have no further questions.

10 MS. ORTH: All right. Thank you,
11 Mr. Tucker.

12 Ms. Gutierrez, do you have questions of
13 Mr. Morgan?

14 MS. GUTIERREZ: Good morning, Hearing
15 Officer. For the record, Ana Gutierrez with Womble
16 Bond Dickinson on behalf of the New Mexico Oil and Gas
17 Association, and we do not have questions for
18 Mr. Morgan. Thank you.

19 MS. ORTH: All right. Thank you.

20 Mr. Pavlik, do you have questions of
21 Mr. Morgan?

22 MR. PAVLIK: No questions for
23 Mr. Morgan. Thank you.

24 MS. ORTH: All right. Thank you.

25 Ms. Ruscavage-Barz, do you have

1 questions?

2 She may have stepped away. Can you see
3 her on the platform, Sheila?

4 MS. APODACA: No, I don't see her.

5 MS. ORTH: Okay.

6 Mr. Tremaine, do you have questions of
7 Mr. Morgan?

8 MR. TREMAINE: I think I just have a
9 couple questions for Mr. Morgan.

10 Good morning, Mr. Morgan. Good to see
11 you again since the last rulemaking. Jesse Tremaine
12 for the Oil Conservation Division. I wanted to ask
13 you about -- some of your testimony relates to the
14 primacy applications in other states, and you
15 discussed self-insurance kind of in two different
16 ways. So if I can refer back to -- and if you give me
17 a minute, if you need, I can share a screen here.

18 But you refer to self-insurance on
19 what's Bates'd as conservation groups' page 58 of the
20 submission that is page 3 of your direct testimony.
21 You say "First, self-insurance is a flawed approach,"
22 et cetera. And then you say "Second, guarantees" --
23 "corporate guarantees similarly carry risks."

24 So I just want to examine that for a
25 second. Are you treating self-insurance and corporate

1 guarantees as separate types of instruments in your
2 analysis?

3 MR. MORGAN: It's my understanding that
4 in the EPA rule and in New Mexico's rule as proposed,
5 they would essentially operate together in that if an
6 applicant itself does not qualify for self-insurance,
7 a corporate parent may provide a corporate guarantee
8 where it would be subject to the same self-insurance
9 criteria.

10 MR. TREMAINE: Okay. In the examples
11 that you've provided where regulators have moved away
12 from self-insurance, have they -- have they moved away
13 from corporate entity self-insurance, or have they
14 also moved away from corporate guarantees? Do you
15 understand my question?

16 MR. MORGAN: I believe I do. In -- in
17 both the Louisiana and Colorado programs, they
18 eliminated the self-insurance item and -- and
19 therefore also eliminated the related corporate
20 guarantee.

21 MR. TREMAINE: Great. Thank you. So
22 in the proposed rule and the EPA rule, corporate
23 guarantees and self-insurance fall within the same
24 financial assurance provision. Would you agree with
25 that?

1 MR. MORGAN: That's my reading,
2 correct.

3 MR. TREMAINE: And so on that point, on
4 Conservation Group's Bates number 69, you referred to
5 that Louisiana and Colorado provision -- or Colorado
6 primacy applications. So Louisiana -- it's my
7 understanding correctly that Louisiana struck the
8 self-insurance provision entirely, including corporate
9 guarantees?

10 MR. MORGAN: That's my understanding as
11 well.

12 MR. TREMAINE: And are you aware of
13 whether or not the -- has Louisiana received primacy?

14 MR. MORGAN: It has, yes.

15 MR. TREMAINE: Colorado, in your
16 example, similarly struck both self-insurance and
17 corporate guarantees?

18 MR. MORGAN: Correct.

19 MR. TREMAINE: Okay. Have they
20 received primacy?

21 MR. MORGAN: Not officially. Although
22 EPA, earlier this year, published a federal register
23 notice where EPA determined that the Colorado program
24 met all of the stringency requirements of the EPA
25 program and EPA recommended approval, but that

1 approval has not yet been finalized.

2 MR. TREMAINE: Okay. In your
3 testimony, you rely on examples from the mining
4 context and self-insurance there. In that BLM and
5 that mining context, same question, has the BLM done
6 away with self-insurance or corporate guarantees or
7 both?

8 MR. MORGAN: I don't believe corporate
9 guarantees were contemplated under the SMCRA
10 provisions explicitly, and BLM has not -- I'm sorry.
11 OSMRE, which is the federal agency that oversees SMCRA
12 and coal mining, OSMRE has not eliminated
13 self-bonding.

14 The -- the way SMCRA works in practice
15 is sort of like -- very much like the Class VI
16 program, states can get their own primacy and have to
17 prove that their programs are at least as stringent,
18 and some states have since moved away from or
19 disallowed the use of self-bonding or self-insuring

20 MR. TREMAINE: So is it -- and -- and
21 just to recap, is it then your -- your testimony that
22 based on your analysis and the Louisiana example, that
23 if the commission were to strike self-insurance from
24 this proposal, that the final rule would be at least
25 as stringent as the EPA rule?

1 MR. MORGAN: Yes. That is my
2 testimony.

3 MR. TREMAINE: One moment.
4 Okay. I have no further questions.
5 Thank you, Mr. Morgan.

6 MR. MORGAN: Thank you.

7 MS. ORTH: Thank you, Mr. Tremaine.
8 Ms. Rushing, is there any redirect?

9 MS. RUSHING: No. Thank you.

10 MS. ORTH: Would you like to move the
11 exhibits?

12 MS. RUSHING: We'll do that at the end
13 of our second witness if that is all right with you
14 all. Thank you, ma'am.

15 MS. ORTH: That's fine.

16 Which of you would like to begin,
17 Commissioner Ampomah?

18 DR. AMPOMAH: So I was going to ask the
19 chair to see if he has questions.

20 MS. ORTH: All right.

21 Chair Chang, would you like to begin?

22 MR. CHANG: I think it's been fairly
23 well covered. I think the questions around legal
24 sufficiencies have been explored by OCD Counsel, so I
25 don't have any further questions at this point.

1 MS. ORTH: All right. Thank you.

2 Commissioner Ampomah?

3 DR. AMPOMAH: Then I'll ask some.

4 So a quick question is you -- you made
5 an example with -- you established some examples using
6 the coal industry. Now, my question is, why is EPA
7 still allowing self-insurance? Do you know?

8 MR. MORGAN: I do not know. Yeah, I
9 can't speak to that.

10 DR. AMPOMAH: Now, I want to ask, can
11 you -- aside the coal example, can you identify a EPA
12 Class VI projects where self-insurance resulted in
13 inadequate financial assurance rather than relying on
14 examples from other industries?

15 MR. MORGAN: I -- I'm not aware of any
16 such examples, but the Class VI industry is very young
17 and so I don't think it's surprising that we haven't
18 yet generated a -- a body of evidence on that -- on
19 that front.

20 DR. AMPOMAH: Now, let me ask, so based
21 on your experience, do you believe the current EPA
22 financial assurance calculations systematically
23 underestimate the closure cost? And if so, by what
24 percentage and based upon what technical studies?

25 MR. MORGAN: I'm afraid that's outside

1 the area of my expertise. I can't speak to the
2 adequacy of those closure cost estimates.

3 DR. AMPOMAH: Now, so with the
4 amendments that your client is proposing to entitle a
5 modification -- and you can decide not to respond to
6 this because probably this might be a little bit
7 technical -- has the organization estimated how much
8 additional permit review time these amendments were
9 required for OCD?

10 MR. MORGAN: I'm not aware of that.

11 DR. AMPOMAH: Okay.

12 MR. MORGAN: I -- I have not performed
13 such a calculation.

14 DR. AMPOMAH: I do not have any further
15 questions for you. Thank you.

16 MS. ORTH: All right. Thank you,
17 Commissioner Ampomah.

18 Commissioner Czoski.

19 MS. CZOSKI: Good morning.

20 MR. MORGAN: Good morning.

21 MS. CZOSKI: So I just want to be clear
22 that Louisiana enacted more stringent Class VI rules;
23 correct?

24 MR. MORGAN: At least from the
25 financial assurance perspective, yes.

1 MS. CZOSKI: Okay. So it is -- and
2 they they have primacy, correct, Louisiana?

3 MR. MORGAN: They have received formal
4 primacy, yes.

5 MS. CZOSKI: Okay. Thank you. And I
6 know you mentioned the carbon -- Geologic Carbon
7 Dioxide Long-Term Storage Stewardship Act, and that
8 there hasn't been a fee schedule established yet. Is
9 that correct?

10 MR. MORGAN: That's my understanding,
11 yes.

12 MS. CZOSKI: Okay. And until that does
13 get established and -- and money starts to be added in
14 there, will the New Mexico taxpayers be responsible
15 for any financial assurances that fail?

16 MR. MORGAN: Yes. If there's a gap
17 between actual expended costs and the financial
18 assurance, that would be borne by the public.

19 MS. CZOSKI: Okay. Thank you.
20 Those are the only questions I have.

21 MS. ORTH: All right. Thank you,
22 Commissioner Czoski.

23 Ms. Rushing, is there any reason not to
24 excuse Mr. Morgan?

25 MS. RUSHING: No, Madam Hearing

1 Officer.

2 MS. ORTH: All right.

3 Thank you very much for your testimony,
4 Mr. Morgan.

5 MR. MORGAN: Thank you.

6 MS. ORTH: Are we moving now to the Oxy
7 panel?

8 MR. TUCKER: Yes.

9 MS. ORTH: Mr. Tucker?

10 MR. TUCKER: Yes.

11 I'd just like to make a brief opening
12 statement -- call our witnesses.

13 MS. ORTH: Absolutely.

14 MR. TUCKER: Good morning, Madam
15 Hearing Officer, Chair, and commissioners. My name is
16 Aaron Tucker of Holland and Hart, and I represent Oxy
17 USA in this rulemaking.

18 Oxy supports the division's pursuit of
19 primacy from EPA over Class VI permitting in New
20 Mexico and is generally supportive of the Oil
21 Conservation Division's proposed rules. Oxy believes
22 that New Mexico is well positioned to administer a
23 robust and protective Class VI program, and that this
24 rulemaking is an important step in advancing carbon
25 sequestration in New Mexico.

1 At the same time, Oxy has proposed
2 several minor targeted modifications to the proposed
3 rules, many of which are intended to align the state
4 program more closely with the corresponding federal
5 Class VI standards. These proposed modifications are
6 set forth in Oxy Exhibits 1A through 1C and are
7 supported by the direct testimony of Oxy's witnesses,
8 Ms. Tiffany Wallace, as well as the rebuttal testimony
9 of Ms. Caroline Wachtman.

10 Oxy believes that these changes will
11 improve the workability of the rules while maintaining
12 the program's protectiveness of underground sources of
13 drinking water, and Oxy looks forward to presenting
14 this testimony to the Commission today. Thank you.
15 At this time, I'd like to call my witnesses panel.

16 MS. ORTH: Okay. I believe we have
17 some tables and microphones over there.

18 MR. TUCKER: And I'm just going to
19 share my screen so I can bring the demonstrative
20 exhibits.

21 MS. ORTH: Please. All right.

22 Ms. Wallace, will you spell your first
23 and last name, please?

24 MS. WALLACE: Yes. Good morning. My
25 name is Tiffany, T-I-F-F-A-N-Y, Wallace,

1 W-A-L-L-A-C-E.

2 MS. ORTH: Do you swear or affirm to
3 tell the truth?

4 MS. WALLACE: I do.

5 MS. ORTH: Thank you.

6 Ms. Wachtman, would you spell your
7 first and last name, please?

8 MS. WACHTMAN: Sure. It's Caroline,
9 C-A-R-O-L-I-N-E, Wachtman, W-A-C-H-T-M-A-N.

10 MS. ORTH: Do you swear or affirm to
11 tell the truth?

12 MS. WACHTMAN: I do.

13 MS. ORTH: Thank you.

14 Go ahead, Mr. Tucker.

15 MR. TUCKER: Apologies. One moment. I
16 had the demonstratives. Thank you.

17 Ms. Wallace, I'd like to start with
18 you. Could you please state your name for the record
19 and by whom you are employed?

20 MS. WALLACE: Yes. My name is Tiffany
21 A. Wallace, and I am employed by Oxy USA, Inc. I live
22 here in Santa Fe, I'm officed here in Santa Fe, and I
23 am a policy manager for Oxy.

24 MR. TUCKER: Thank you. Are you
25 familiar with the application filed in this matter?

1 MS. WALLACE: Yes, I am.

2 MR. TUCKER: And is Exhibit 1 a copy of
3 Oxy's proposed modifications to the rule?

4 MS. WALLACE: Yes.

5 MR. TUCKER: And is Exhibit 2 a copy of
6 your written direct testimony?

7 MS. WALLACE: Yes.

8 MR. TUCKER: Do you have any changes or
9 corrections you'd like to make to your written
10 testimony?

11 MS. WALLACE: I do. I have one change.
12 In paragraph 43 of my direct testimony, we're talking
13 about annual monitoring requirement; I stated as
14 annual, that should be periodic, and everything else
15 in my testimony translates to periodic.

16 MR. TUCKER: Thank you. And with that
17 correction, do you adopt your written direct testimony
18 today?

19 MS. WALLACE: Yes, I do.

20 MR. TUCKER: Thank you. Ms. Wallace,
21 have you previously testified before the New Mexico
22 Oil Conservation Commission?

23 MS. WALLACE: Yes, I have. I've
24 previously testified both as an Oxy employee here in a
25 recent rulemaking, and then as well as testified

1 before the Commission in my role as the deputy
2 director of the Oil Conservation Division.

3 MR. TUCKER: And could you please
4 describe your educational background and professional
5 experience briefly?

6 MS. WALLACE: Yes. I am a petroleum
7 engineer with an MS in petroleum engineering from
8 Texas A&M University. I spent about 20 years in
9 several engineering and leadership positions, mostly
10 on the subsurface and development side, before joining
11 the NMOCD in 2020.

12 Prior to the NMOCD, my last role within
13 the industry was the development director of Marathon
14 Oil Company. I oversaw all the gas assets within the
15 Delaware Basin here in New Mexico, and
16 responsibilities in that role would include managing
17 over 100 employees in specialties such as geosciences,
18 reservoir engineering, planning roles, regulatory,
19 production engineering, and operations.

20 MR. TUCKER: And could you please
21 describe your experience with the NMOCD?

22 MS. WALLACE: Sure. I was employed
23 with EMNRD OCD from April 2020 through January 2023,
24 and I was the deputy director of the OCD. And my
25 duties included managing both the engineering and the

1 environmental staff, rulemaking, industry guidance,
2 budgets, and compliance.

3 MR. TUCKER: And could you please
4 describe Oxy and its operations?

5 MS. WALLACE: Sure. Oxy is an
6 international company with assets in the United States
7 as well as the Middle East and Africa. We are one of
8 the largest oil and gas producers in the United States
9 based in Houston, what, with just over 9,000 employees
10 globally.

11 We are a leading producer in the
12 Permian Basin, and most of our assets are located
13 within Lea and Eddy County and include both
14 conventional oil and gas operations as well as
15 enhanced oil recovery. We are a proud active
16 supporter in community organizations and first
17 responders in the state, and we do have a strong track
18 record of working with the agencies as well as our
19 environmental friends.

20 MR. TUCKER: Thank you. And what is
21 Oxy's involvement in carbon management?

22 MS. WALLACE: Oxy is recognized as an
23 expert in carbon management with over 50 years of
24 leadership in both CO2 separation, transportation,
25 use, recycling, and storage.

1 Our leadership in the field of carbon
2 dioxide is really proven by our success at working
3 with the EPA to get approvals, permitting approvals,
4 and we are the first company to receive UIC Class VI
5 injection permits and authorizations to inject in
6 Region 6. We have engaged in multiple rulemakings
7 both at the federal and state level regarding this
8 subject.

9 MR. TUCKER: Thank you. And what is
10 Oxy's general position on the proposed rules here?

11 MS. WALLACE: We're supportive of the
12 rules and OCD efforts to obtain primacy from the EPA
13 on Class VI permitting and operations. We believe
14 that the delegation of primacy to OCD will assist in
15 protective, thorough, and timely permitting in New
16 Mexico. Oxy believes OCD did a great job with the
17 proposal -- the proposed rules, but we have a few
18 suggested changes that we believe could improve the
19 rule.

20 MR. TUCKER: Thank you. I'd like to
21 turn to the -- the first recommendation. What -- what
22 do the proposed rules provide regarding automatic
23 permit termination?

24 MS. WALLACE: I'm going to bounce
25 between the screen here so I can see it properly and

1 make sure I get all this in so bear with me.

2 The proposed rules in the Subsection H,
3 which is 19.15.41.8 NMAC, provide for automatic permit
4 termination if drilling operations have not commenced
5 within two years from the date of permit issuance.
6 And then to avoid the automatic termination, a
7 permittee may apply for extension at least 30 days
8 prior to the expiration.

9 MR. TUCKER: And what is Oxy's concern
10 with the proposed two-year time frame?

11 MS. WALLACE: So this provision is an
12 area that we've heard that OCD chose to be more
13 stringent than the federal rule; and while we
14 understand the intent, the federal rules contain no
15 similar requirement.

16 Oxy is concerned that the two-tier --
17 two-year time frame on such long-term projects could
18 be too brief and poses feasibility challenge. One
19 example is, you know, allowing only two years from the
20 date of permit may not allow for enough time to
21 develop pipelines and other critical infrastructure.

22 Instead, we believe that the commission
23 should revise the rule to provide operators up to five
24 years to commence drilling operations from the date of
25 issuance.

1 MR. TUCKER: Thank you. Does -- what
2 is Oxy's position on an appeals process for permit
3 decisions?

4 MS. WALLACE: Yes. We've heard a lot
5 of this earlier when the OCD panel testified that the
6 Commission -- that the rules already address the
7 appeals process. We don't disagree with that.
8 However, the Class VI rules do not specifically
9 reference the relative -- the relevant provisions, and
10 Oxy would support those of being called out within
11 this rule, and specifically, that's 19.15.4.8 NMAC.

12 We definitely don't want a separate
13 appeals process, we just want it to be very clear in
14 this rule what the -- what process this rule would
15 follow. And I have heard it said that it's not
16 necessary to add that language, but I do think that
17 it's helpful and it gives regulatory transparency and
18 it certainly isn't harmful to have that citation.

19 MR. TUCKER: Thank you. I'd like to
20 turn to the minor modification provision. What do the
21 proposed rules provide regarding minor modification of
22 permits?

23 MS. WALLACE: Sure. So this is
24 Subsection J of 19.15.42.11 NMAC. It provides a list
25 of changes to a permit that are considered minor

1 modifications and therefore not subject to formal
2 permit revision procedures.

3 MR. TUCKER: And what is Oxy's concern
4 with the -- with the proposed provision, and what
5 changes is Oxy proposing?

6 MS. WALLACE: Right. So we believe
7 that, as written, it can create some unintended
8 ambiguity. While it does list out certain provisions
9 within the rule that are considered minor
10 modifications, it does not include what we believe is
11 full discretion for the director to decide other minor
12 modifications that would be listed outside of that.

13 The process can take more than two
14 years to complete, very complicated projects. And in
15 that time, it is likely that operating conditions,
16 project plans, et cetera, could change that would
17 necessitate a certification to improve the
18 enforceability of the permit.

19 So owners and operators, we believe,
20 should be allowed to demonstrate to the director that
21 an amendment is neither material nor a substantial
22 operation nor creating an unsafe environment.
23 Therefore, we propose a catchall category in
24 Subsection J8 of 19.15.42.11 that would provide
25 protection against USDWs while also improving and

1 helping the permit timeline and discretion for the
2 division.

3 MR. TUCKER: Thank you, Ms. Wallace.
4 I'd now like to turn to the area of review
5 reevaluations. What did the proposed -- what does the
6 proposed rule provide regarding area review
7 reevaluations?

8 MS. WALLACE: So this is Subsection E
9 of 19.15.43.9.E NMAC. It provides for a fixed
10 frequency of the area review evaluations, including
11 initial reevaluation two years after injection begins
12 and subsequent reevaluations not to exceed four years.

13 MR. TUCKER: And could you briefly
14 describe Oxy's concerns with the proposed draw?

15 MS. WALLACE: Sure. In this particular
16 case, we would really like to see the rule mirror the
17 federal rule. The Federal Rule 40 C.F.R. -- and
18 there's a long list of numbers there if I need to cite
19 it -- provides a fixed frequency evaluation not to
20 exceed five years.

21 New Mexico, we believe, should match
22 the reevaluation frequency to the federal rules. Once
23 New Mexico is granted primacy, the projects that were
24 permitted by the EPA will retain the same reevaluation
25 frequency. A five-year reevaluation period is

1 appropriate because data collection and simulations,
2 et cetera, that we've heard about this week are also
3 time sensitive.

4 And so using the five-year fixed
5 interval, which is the federal standard, would allow
6 these projects to continue within the same time frame.
7 And as stated by myself and others, these are very
8 long lead, complicated projects.

9 MR. TUCKER: Thank you. I'd now like
10 to turn to financial responsibility. What does the
11 proposed rule provide regarding financial
12 responsibility and self-insurance?

13 MS. WALLACE: This is Subsection
14 F(1)(f)(v) of 19.15.43.9 NMAC, and it allows an owner
15 or operator to self-insure to demonstrate financial
16 responsibility for geologic sequestration projects.
17 An owner or operator can satisfy the test by meeting
18 various qualifications.

19 MR. TUCKER: And what changes does --
20 what -- or sorry. What changes or financial tests
21 does Oxy recommend?

22 MS. WALLACE: So Oxy recommends that
23 the commission adopt the financials tests set forth in
24 USA -- EPAs hazard waste regulations; resource
25 Conservation and Recovery Act, commonly called RCRA.

1 If I need the citation, I can. It is in my testimony.
2 And this test relies on tangible net worth rather than
3 net working capital.

4 It's my opinion and Oxy's opinion that
5 relying on a financial fit test consistent with RCRA
6 reflects the need for an owner or operator to
7 demonstrate that they have the means to properly close
8 operations if needed while also accounting for the
9 need for financially fit companies to deploy working
10 capital as needed.

11 Working capital is, of course, a
12 measure of the day-to-day cash that's required to run
13 a business. It's never traditionally intended to
14 serve for long-term corporate liability indicators.
15 Tangible net worth, however, is a better way to
16 measure a company's ability to meet long-term
17 liabilities and long-term solvency.

18 Keeping large net capital is considered
19 inefficient as a corporation and -- and can lead to
20 some poor decisions from a business management
21 standpoint. And again, I'll just say these are long
22 lead projects, and so we feel that the better measure
23 is -- is really a tangible net worth.

24 MR. TUCKER: Thank you. Now I'd like
25 to turn to the logging, sampling, and testing

1 provisions. What do the proposed rules require
2 regarding logging, sampling, and testing?

3 MS. WALLACE: This is Subsection H,
4 19.15.43.9 NMAC. It requires an owner or operator to
5 run specific logs, surveys, and tests to determine and
6 verify depth, thickness, porosity, permeability, and
7 lithology of formation fluids in geologic formations.

8 MR. TUCKER: And what is Oxy's proposed
9 change to -- to those rules?

10 MS. WALLACE: So we recommend in
11 Subsection H to allow operators to use
12 fit-for-purpose, site-specific logging and testing
13 methods that are reflective of best management
14 practices and the needs of the site and project.

15 As it's written, the section prescribes
16 and mandates a test that owners or operators must use.
17 While we believe it to be protective, this is -- it
18 very much mirrors the federal rules. We believe it to
19 be protective. It could be updated to be less
20 prescriptive and therefore creating, we think, a
21 stronger rule for the state and the division to be
22 protective towards the specific things that a site or
23 a project may need.

24 Some of the tests that are listed
25 within the method and prescribed are outdated, provide

1 redundant information. They can also increase well
2 integrity risk and providing no real benefit that the
3 other tests or -- or other tests outside of that
4 wouldn't provide.

5 Again, we believe that the rules should
6 be performance-based rather than prescriptive, and we
7 believe that the rules should allow for the infusion
8 of new technologies should they become available at
9 the discretion of the agency around projects and
10 geological -- geologic reasons to dictate what those
11 tests need to be. I do want to mention that we have
12 given this same feedback to -- on the federal rules
13 in -- in other venues.

14 MR. TUCKER: Thank you, Ms. Wallace.
15 I'd like to turn to groundwater monitoring now. What
16 do the proposed rules require regarding groundwater
17 monitoring frequency?

18 MS. WALLACE: They require quarterly
19 monitoring; the current rules -- the current draft.

20 MR. TUCKER: And what is Oxy's position
21 on the quarterly monitoring requirement?

22 MS. WALLACE: Oxy's position is, again,
23 that we mirror the federal rule and require periodic
24 monitoring. And I recognize that periodic is not a
25 very specific term. However, that's intentional and

1 we believe it creates for a better rule.

2 The director having the ability to
3 utilize discretion and select a monitoring plan that
4 is fit for purpose for the site and the project is --
5 is much more powerful for these projects. A periodic
6 can mean one week, one month, one year, five years.
7 And we also believe that the projects vary over time
8 and that frequency may need to be varied over time.

9 MR. TUCKER: Thank you, Ms. Wallace.
10 Now I'd like to -- to move to the final topic,
11 emergency and remedial response. What do the proposed
12 rules require regarding emergency and remedial
13 response?

14 MS. WALLACE: So this is Subsection 0
15 of 19.15.43.9. There's a requirement for developing
16 an emergency and remedial response plan. Subsection
17 05 requires that the plan be reviewed and updated at
18 least every three years.

19 MR. TUCKER: And how's the proposed
20 review period in -- in the proposed rule compared to
21 the federal requirement?

22 MS. WALLACE: So the federal
23 regulations that are, again, found in the 40 C.F.R.
24 146.94 require an owner or operator to develop and
25 submit an emergency plan. However, the regulations

1 require the plan be reviewed and amended as
2 appropriate every five years, and Oxy proposes that
3 the commission mirror the federal rule on this.

4 MR. TUCKER: Thank you. Does Oxy have
5 any other proposed changes to this section?

6 MS. WALLACE: Yes, one small
7 clarification. "If evidence shows that the injected
8 CO2 stream presents any endangerment to a USDW, the
9 owner must cease injection." Oxy would like to see
10 the language read "Cease injection in the impacted
11 well," and this is in the event that an operator has
12 more than one injection well operating, but it is very
13 clear.

14 Again, this is another one. It -- it's
15 maybe implied, but it's clear to the regulated
16 community to call that out, and it's certainly not
17 harmful language to the rule.

18 MR. TUCKER: Thank you, Ms. Wallace.
19 Does this conclude your testimony?

20 MS. WALLACE: It does.

21 MR. TUCKER: Thank you.

22 I'd like to now move on to our rebuttal
23 witness, Ms. Caroline Wachtman.

24 Ms. Wachtman, could you please state
25 your name and employer?

1 MS. WACHTMAN: Yes. So my name is
2 Caroline Wachtman. I'm employed by Oxy, officed in
3 Houston, and my current duties include managing CO2
4 storage projects in Texas.

5 MR. TUCKER: Thank you. And are you
6 familiar with the application filed in this matter?

7 MS. WACHTMAN: Yes, I'm familiar.

8 MR. TUCKER: Is Exhibit 3 a copy of
9 your written direct testimony?

10 MS. WACHTMAN: Yes, that's correct.

11 MR. TUCKER: Do you have any changes or
12 corrections you'd like to make to your written direct
13 testimony?

14 MS. WACHTMAN: No, I do not.

15 MR. TUCKER: Do you adopt your written
16 direct testimony today?

17 MS. WACHTMAN: Yes.

18 MR. TUCKER: Thank you. Ms. Wachtman,
19 could -- what are your professional qualifications?

20 MS. WACHTMAN: Sure. So I'm a
21 professional geologist. I'm licensed in Texas, and I
22 have over 20 years of subsurface experience. I've got
23 a bachelor's degree in science and geology from the
24 College of William & Mary and a master's degree in
25 science and geology from the University of Wisconsin-

1 Madison.

2 So the first 15 years of my career were
3 spent with ExxonMobil where I focused on oil and gas
4 exploration, development, and production, primarily
5 for international projects, such as Kazakhstan, West
6 Africa, and the Caribbean. And my teams and I were
7 responsible for characterizing reservoirs through
8 seismic interpretation, role analysis, modeling and
9 simulation, and for permitting projects with
10 international regulators.

11 In 2021, I pivoted my skills in
12 reservoir characterization and project management to
13 CCS. And for the past four years, I've been working
14 at Oxy where I've been designing, permitting, and
15 executing CCS projects in Texas. Notably, my team and
16 I successfully permitted three Class VI wells for the
17 Brown Pelican Project in Ector County, Texas.

18 These are the first three Class VI
19 wells that were permitted by the Region 6 EPA and the
20 first three Class VI wells that were permitted by the
21 Texas Railroad Commission. I'm responsible for
22 writing, implementing, monitoring, reporting, and
23 verification of our MRV plans for Class II EOR
24 projects. Furthermore, I'm working on permitting
25 Class I wells associated with CCS projects in Texas.

1 In addition to that, I'm an active
2 member of the International Standards Committee, or
3 ISO Committee, for 27914, which is the International
4 Standard for Long-Term Storage of CO₂. And I'm the
5 project lead for work stream on legacy well risk
6 assessment.

7 MS. ORTH: Ms. Wachtman, I'm sorry.
8 When you read, you speed up. Would you slow down a
9 little?

10 MS. WACHTMAN: I apologize. Thank you.

11 MS. ORTH: Thank you.

12 MS. WACHTMAN: Do you need me to repeat
13 any of that?

14 MS. ORTH: I don't think so, no.

15 MS. WACHTMAN: I also co-chair multiple
16 professional events, including the CCUS Conference,
17 which is sponsored by the American Association of
18 Petroleum Geologists, the Society of Professional
19 Engineers, the Society of Exploration Geophysicists.
20 I am also the lead of the Carbon Management Pavilion,
21 which is at the annual Geology and Geophysics
22 Conference.

23 MR. TUCKER: Thank you. Is Oxy Exhibit
24 4 a copy of your resume?

25 MS. WACHTMAN: Yes, that's correct.

1 MR. TUCKER: Thank you. And that
2 resume reflects your experience and -- your education
3 and experience?

4 MS. WACHTMAN: Correct.

5 MR. TUCKER: Thank you. Could you
6 briefly describe the purpose of your rebuttal
7 testimony?

8 MS. WACHTMAN: Sure. So the purpose of
9 my testimony today is to respond to proposals advanced
10 by the conservation groups; those are through
11 witnesses Peter Morgan and Dr. Charles Harvey, and the
12 Center for Biological Diversity through witnesses
13 Dr. Catherine Helm-Clark.

14 These would impose requirements that
15 exceed the Federal Class VI framework without
16 commensurate benefit to the protection of underground
17 sources of drinking water. They would render Class VI
18 permitting in New Mexico unworkable and would place
19 New Mexico out of step with the federal program and
20 with other primacy states.

21 MR. TUCKER: Thank you. Start with
22 this first slide. What does the Center for Biological
23 Diversity propose regarding setbacks for Class VI
24 wells?

25 MS. WACHTMAN: Sure. So they're

1 proposing mandatory half mile setbacks within schools,
2 libraries, community centers, or other areas. And in
3 addition to that, no new oil or gas wells could be
4 sited within ten miles of any existing Class VI well.

5 MR. TUCKER: Does Oxy support a fixed
6 distance setback requirement for Class VI wells?

7 MS. WACHTMAN: No. So Oxy does not
8 support a fixed distance setback requirement for Class
9 VI wells. And so the Federal Class VI program is
10 risk-based and site specific. The EPA's rulemaking in
11 2010 considered a rejected fixed distance buffers in
12 favor of modeled AoRs, because it's really the geology
13 and not surface use that determines a subsurface risk.

14 So this proposed language extends far
15 beyond Class VI wells. And the idea of prohibiting
16 siting of any new oil, gas, or injection wells within
17 a half mile of a school or residence, if within a
18 ten-mile radius of a Class VI well, could potentially
19 be limiting in areas such as the Permian Basin where
20 there are potentially hundreds of wells within ten
21 miles of potential sequestration sites.

22 And finally, and importantly, the
23 proposal really conflates subsurface and subsurface --
24 surface, rather, and subsurface risks. So the
25 subsurface risk is already addressed through the EPA's

1 AoR framework.

2 MR. TUCKER: Thank you. I'd now like
3 to -- to move on to ten-mile site characterization.
4 What does the Center for Biological Diversity propose
5 regarding site characterization?

6 MS. WACHTMAN: Sure. So CBD proposes a
7 mandatory site characterization area that extends ten
8 miles from any new Class VI injection well, and the
9 purpose of that would be to investigate transmissive
10 fractures or falls.

11 MR. TUCKER: And what are Oxy's
12 concerns with this proposal?

13 MS. WACHTMAN: So Oxy does not support
14 a mandatory ten-mile site characterization radius in
15 part because a ten-mile radius encompasses a huge
16 area, so 314 square miles. It's larger than any of
17 the other AoRs that I'm aware of have been proposed
18 for Class VI projects, and it's not based on any
19 site-specific criteria or data.

20 So the federal rule and EPA guidance,
21 state regulations, none of them require a similar kind
22 of fixed distance, and the ten-mile figure is
23 arbitrary. There is an existing EPA rule which
24 determines what an AoR and site characterization
25 should look like; those involves both regional and

1 site-specific characterizations that are based on
2 site-specific criteria.

3 MR. TUCKER: What does the Center for
4 Biological Diversity propose regarding corrective
5 actions beyond the area of review?

6 MS. WACHTMAN: Yeah. So -- so CBD is
7 proposing to -- that operators to identify and perform
8 corrective action on all wells within a half mile of
9 public buildings and residential zoned areas that are
10 located within a ten-mile radius of a proposed Class
11 VI project. And importantly, that's regardless of
12 whether those wells are within an AoR or not.

13 MR. TUCKER: And what are Oxy's
14 concerns with this proposal?

15 MS. WACHTMAN: So Oxy doesn't support
16 this proposal because corrective actions should be
17 directed at wells that are within the zone of
18 potential endangerment which is defined as the AoR,
19 and so wells that are are not at risk for potential
20 leakage would not and shouldn't be considered.

21 The AOR framework delineates where
22 regulatory action is necessary, and extending
23 corrective action obligations beyond it based on
24 surface proximity separates out that subsurface risk
25 from any kind of surface risk.

1 MR. TUCKER: Thank you. Okay. Now I'd
2 like to turn to the area of review. What did the
3 conservation groups propose regarding the definition
4 of the area of review?

5 MS. WACHTMAN: So a couple of proposals
6 here, but in general, it's to redefine the area of
7 review as the union of the modeled pressure front and
8 the CO2 plume extent. And then also to require
9 mandatory ensemble modeling.

10 MR. TUCKER: And what are Oxy's
11 concerns with this redefinition?

12 MS. WACHTMAN: So Oxy opposes
13 redefining the AoR as the union of the pressure front
14 and the plume extent in part because the existing
15 federal definition of AoR already encompasses both the
16 plume and pressure-driven endangerment. That's how an
17 AOR is defined.

18 So defining the AOR at the pressure
19 front scale could potentially make monitoring and
20 corrective action obligations impossibly large if we
21 are to look at that ten-mile radius and unworkable for
22 a commercial scale project. So we have Region 6 EPA
23 permitted project, and we've determined and we can
24 demonstrate that that AoR delineation is appropriate.
25 It accounts for pressure effects within the existing

1 framework. There's not additional work that's needed.

2 MR. TUCKER: Thank you. What do the
3 conservation groups propose regarding an intensive
4 correction -- intensive corrective action area?

5 MS. WACHTMAN: Yeah. So -- so the
6 conservation groups have proposed to define an
7 intensive corrective action area that would be based
8 on the maximum CO2 plume boundary extent across all of
9 the model simulations, so considering all of the
10 sensitivities and then putting an additional buffer of
11 half that distance of the maximum plume extent in
12 addition to that extent.

13 MR. TUCKER: And what are -- so what
14 are Oxy's concerns with this proposal?

15 MS. WACHTMAN: So -- so Oxy does not
16 support this proposal because there's no federal rule,
17 no EPA guidance, no state guidance or state rule that
18 would establish a similar kind of intensive corrective
19 action area. The 50 percent figure is arbitrary, and
20 there is already a mechanism for evaluating and
21 reevaluating an AoR. It uses existing models and
22 existing operational data to update that AoR as
23 appropriate, and an additional corrective action area
24 isn't required.

25 MR. TUCKER: Thank you. Turning to 3D

1 seismic characterizations, what do the conservation
2 groups propose regarding 3D seismic characterization?

3 MS. WACHTMAN: So conservation groups
4 have proposed mandatory 3D seismic characterization of
5 the full AoR.

6 MR. TUCKER: And does Oxy support
7 mandatory 3D seismic coverage?

8 MS. WACHTMAN: So Oxy does not. And so
9 while 3D seismic is a great tool, as a geologist, I do
10 love to use it. However, there are many situations
11 where a combination of 2D and 3D is appropriate, or 2D
12 data is appropriate. 3D seismic is not necessary or
13 not cost-effective at every site, and if the AoR
14 includes a pressure front as proposed by Dr. Harvey,
15 3D seismic would cover hundreds and hundreds of square
16 miles.

17 MR. TUCKER: Thank you. What do the
18 conservation groups propose regarding third-party
19 verification?

20 MS. WACHTMAN: So the conservation
21 groups have proposed mandatory, independent, certified
22 third-party verification of the modeling ensemble
23 that's used to delineate the area of review.

24 MR. TUCKER: And what are Oxy's
25 concerns with that proposal?

1 MS. WACHTMAN: So Oxy does not support
2 mandatory third-party verification because the Oil
3 Conservation Division will already be reviewing and
4 approving the AoR model. They have the technical
5 capacity and the resources to perform this review and
6 analysis, and then an additional verification
7 requirement would introduce a regulatory bottleneck.

8 I can provide more information about
9 how long these processes take based on my own
10 experience. There's no primacy or state that
11 imposes -- no primacy state, I should say, that
12 imposes such a requirement, and adding it would just
13 create more costs, more uncertainty, and potential
14 delays. The existing review process is adequate.

15 MR. TUCKER: Thank you. What did the
16 conservation groups propose regarding area of review
17 reevaluations?

18 MS. WACHTMAN: Yeah. So the
19 conservation groups have proposed an extensive list of
20 mandatory on automatic triggers for reevaluation of an
21 AoR.

22 MR. TUCKER: And what are Oxy's
23 concerns with those proposals?

24 MS. WACHTMAN: So -- so Oxy doesn't
25 support the proposals put forth by the conservation

1 groups and maintains that the reevaluation frequency
2 really should match the federal standard, which is the
3 five-year standard. This interval was established by
4 the EPA after it makes a common rulemaking. It was
5 established with full consideration of data-driven
6 modeling and analysis of the timelines involved.

7 There's already a requirement for
8 operators to provide monitoring and operational
9 conditions that would warrant a reevaluation. And
10 additionally, those monitoring and operational
11 conditions would be reported on the semi-annual and
12 annual reports.

13 We should use a site-specific approach.
14 This is reviewed and approved by the director before
15 injection begins. It's more protective than a one-
16 size-fits-all approach because it's really calibrated
17 to that actual site with those site-specific geology
18 and triggers. Automatic triggers are arbitrary and
19 they don't account for that site-specific variability.

20 MR. TUCKER: Thank you. What is the --
21 what does the Center for Biological Diversity propose
22 regarding well identification?

23 MS. WACHTMAN: So the CBD proposes that
24 operators should locate every well in the AoR through
25 both non-physical review and a geophysical

1 investigation.

2 MR. TUCKER: And what are Oxy's
3 concerns with this proposal?

4 MS. WACHTMAN: So I'll start by saying
5 that Oxy supports a robust well identification using
6 appropriate site-specific tools, but we oppose a
7 blanket geophysical investigation mandate across the
8 entire AoR.

9 So geophysical surveys will not work in
10 all cases; for example, in cases where casing has been
11 pulled, magnetic surveys will not be very effective at
12 detecting those wellbores. So the proposed rules,
13 existing framework, and identification methods that
14 are approved by the director provide the flexibility
15 to deploy the right tool for the right site.

16 MR. TUCKER: Okay. What do the
17 conservation groups propose regarding financial
18 assurance?

19 MS. WACHTMAN: Yep. So as we heard
20 earlier this morning, the conservation groups oppose
21 self-insurance and propose to eliminate it from the
22 proposed rules.

23 MR. TUCKER: And what are Oxy's
24 concerns with those proposed changes?

25 MS. WACHTMAN: So as -- as we've

1 discussed, we oppose eliminating self-insurance
2 because it would place New Mexico out of step with the
3 federal program and other primacy states. Proposal to
4 delete any other instrument satisfactory to the
5 director is contrary to the federal regulations and
6 the director's need for flexibility, and it precludes
7 the director from utilizing future financial assurance
8 projects.

9 MR. TUCKER: Thank you. Okay. Moving
10 on to the logging requirements. This -- what's the
11 Center for Biological Diversity propose regarding
12 logging requirements?

13 MS. WACHTMAN: So CBD is proposing to
14 add sonic density and porosity logging requirements.

15 MR. TUCKER: And what is Oxy's concern
16 with this proposal?

17 MS. WACHTMAN: So in general, Oxy
18 doesn't support prescriptive logging requirements
19 because we really believe through experience that the
20 rules should be performance-based. So you're not
21 collecting data for the sake of collecting data,
22 you're collecting data to help answer a specific
23 geologic question. And this allows for evolving
24 technology, it allows for site-specific
25 characterization, and it's at the director's interval.

1 MR. TUCKER: Thank you. Interference
2 tests -- now moving on to interference tests. What
3 does the Center for Biological Diversity propose
4 regarding interference tests?

5 MS. WACHTMAN: So the CBD proposes that
6 no operator shall use interference tests or any other
7 injectivity test that requires more than one borehole
8 to penetrate the injection site.

9 MR. TUCKER: And does Oxy support this
10 prohibition?

11 MS. WACHTMAN: So Oxy does not. And
12 it's unclear whether this prohibition is targeting the
13 test methodology or that there would be multiple
14 boreholes in the injection zone. So if the concern is
15 there would be multiple boreholes, that risk is
16 already addressed with well construction guidance and
17 mechanical integrity testing requirements.

18 And by prohibiting a particular type of
19 test, it limits the tools for characterization and
20 potentially would result in less information or less
21 useful information available to the operator and the
22 director.

23 MR. TUCKER: Thank you. What's the
24 Center for Biological Diversity proposed regarding the
25 maximum -- excuse me -- the maximum injection

1 pressure?

2 MS. WACHTMAN: So CBD proposes to
3 reduce the maximum injection pressure from 90 percent
4 to 80 percent of the fracture pressure in the
5 injection zone.

6 MR. TUCKER: And what is Oxy's concern
7 with reducing the injection pressure limit?

8 MS. WACHTMAN: So the 90 percent limit
9 is the federal standard, and it's the standard under
10 which every other existing Class VI permit has been
11 operating. An additional 10 percent pressure
12 reduction is arbitrary and it reduces the ability of
13 the operator to inject the desired amount of CO2 which
14 could result in the need for additional wells or
15 extended timelines, potentially increased surface
16 disturbance and cost without a demonstrated safety
17 benefit.

18 MR. TUCKER: Thank you. Moving on to
19 the testing and monitoring requirements. What do the
20 conservation groups propose regarding a minimum number
21 of monitoring wells?

22 MS. WACHTMAN: So the conservation
23 groups have proposed mandatory minimum of four
24 monitoring well locations.

25 MR. TUCKER: And does Oxy support a

1 mandatory minimum?

2 MS. WACHTMAN: No. Oxy does not
3 support a mandatory minimum number of monitoring wells
4 because the appropriate number of wells and the
5 placement of those wells should be site specific; it's
6 based on the size of the AoR and the particular
7 characteristics of that project. A blanket minimum
8 substitutes an arbitrary number for a director's
9 expert judgment.

10 MR. TUCKER: What do the conservation
11 groups propose regarding surface air monitoring?

12 MS. WACHTMAN: So the conservation
13 groups have proposed that surface air monitoring be
14 mandatory rather than discretionary.

15 MR. TUCKER: And what are Oxy's
16 concerns with that proposal?

17 MS. WACHTMAN: So surface air
18 monitoring can be effective, but only over a very
19 small area and an area that is located very close to a
20 wellbore, for example. It cannot even cover an area
21 of, like, a wellpad, let alone an area of a large AoR.
22 And the proposed rules already authorize the director
23 to require surface air monitoring if it's needed and
24 warranted.

25 MR. TUCKER: Okay. Moving on to

1 seismic threshold metrics. What do the conservation
2 groups propose regarding the seismic threshold metric?

3 MS. WACHTMAN: So the conservation
4 groups have proposed that seismic thresholds use
5 peak -- or the metric that must be used, I should say,
6 is peak ground velocity or peak ground acceleration.

7 MR. TUCKER: And what are Oxy's
8 concerns with codifying a specific seismic threshold
9 metric in the law?

10 MS. WACHTMAN: So peak ground velocity,
11 peak ground acceleration, while they're valid metrics,
12 they're not the only defensible approaches. So the
13 rule should preserve flexibility to select a
14 methodology that's suited to the site or suited to
15 other of New Mexico's projects and their well classes
16 rather than locking in one specific metric for Class
17 VI.

18 MR. TUCKER: What did the conservation
19 groups propose regarding pressure fallout tests?

20 MS. WACHTMAN: So Dr. Harvey proposes
21 mandatory pressure fall off testing that's run to
22 completion.

23 MR. TUCKER: And what are Oxy's
24 concerns with this change?

25 MS. WACHTMAN: So it's a little bit

1 unclear sort of what the proposal is intended to -- to
2 require here, because the proposed rules already
3 require fall-off tests every five years. And some of
4 the commentary that went along with the proposal,
5 there was a mention of DFIT test, but mandating a
6 specific tool would preclude the use of the best
7 available tool at that particular site to obtain the
8 information that's needed.

9 MR. TUCKER: Thank you. What did the
10 conservation groups propose regarding material
11 compatibility recertification?

12 MS. WACHTMAN: The conservation groups
13 have proposed periodic material compatibility
14 recertification of the monitoring well against current
15 CO2 corrosion knowledge.

16 MR. TUCKER: And what are Oxy's
17 concerns with this proposal?

18 MS. WACHTMAN: So the purpose of
19 demonstrating material compatibility is to demonstrate
20 mechanical integrity, and the framework for
21 demonstrating mechanical integrity is already
22 addressed in the rules.

23 So a requirement for material
24 compatibility should be adaptable to the subsurface
25 conditions that are experienced by that particular

1 well, meaning that wells that are completed in an
2 injection zone will experience different fluids than
3 wells that are completed in a confining zone, for
4 example. But really, the rule just should be
5 consistent with the existing requirements.

6 MR. TUCKER: Thank you. Turning to the
7 reporting requirements, what do the conservation
8 groups propose regarding reporting of gauge
9 malfunctions?

10 MS. WACHTMAN: So the proposal is for
11 mandatory reporting of all gauge malfunctions and
12 instrumentation failures.

13 MR. TUCKER: And what are Oxy's
14 concerns with this proposal?

15 MS. WACHTMAN: So the challenge here is
16 that it's -- it's really overbroad. So routine
17 instrumentation issues such as, you know, storms
18 rolling through that could cause communication issues,
19 calibration events, those sorts of things; they do not
20 indicate mechanical integrity or USDW endangerment.

21 So the -- the gauge malfunctions should
22 be reported if they're indicating any kind of loss of
23 mechanical integrity, but there may be other reasons
24 why they are not indicating loss of mechanical
25 integrity.

1 MR. TUCKER: Thank you. Okay. Final
2 topic. What do the conservation groups propose
3 regarding on-site staffing?

4 MS. WACHTMAN: Yeah. So the
5 conservation groups are proposing that at least one
6 employee must be on site or otherwise available at all
7 times to carry out an emergency response.

8 MR. TUCKER: And what are Oxy's
9 concerns with this proposal?

10 MS. WACHTMAN: So Class VI wells are
11 monitored remotely with continuous reporting devices,
12 alarm systems, and automated shutoff controls.
13 Personnel will, you know, periodically visit for
14 visual inspections, but there's no federal regulation
15 that mandates continuous on-site presence, and this is
16 particularly challenging in remote areas.

17 So remote monitoring with automated
18 shutdowns provides real-time response, and the
19 proposed rules already require automatic shutoff
20 systems to be integrated with alarms, 24-hour director
21 notification, and implementation of an approved
22 emergency response plan.

23 MR. TUCKER: And finally, what do the
24 conservation groups propose regarding gauge
25 malfunctions?

1 MS. WACHTMAN: Yeah. So similar to
2 what we talked about in the reporting requirement
3 section above, the conservation groups are proposing a
4 24-hour reporting and shutdown for every gauge
5 malfunction that lasts longer than a week.

6 MR. TUCKER: And what are Oxy's
7 concerns with this proposal?

8 MS. WACHTMAN: So -- so similar to the
9 response on the previous item, 24-hour reporting and
10 shutdown for every gauge anomaly would generate
11 immaterial notifications and could potentially obscure
12 significant -- significant events with unnecessary
13 shutdowns.

14 MR. TUCKER: Thank you. And does that
15 conclude your rebuttal testimony?

16 MS. WACHTMAN: It does. Thank you.

17 MR. TUCKER: Thank you very much.

18 MS. ORTH: Thank you very much, panel
19 and Mr. Tucker.

20 Let's take a lunch break before we turn
21 to questioning today of the Oxy panel. Come back at
22 12:45. Thank you.

23 (Off the record.)

24 MS. ORTH: Ms. Wallace and Ms. Wachtman
25 have given their testimony. We turn now to questions.

1 Ms. Gutierrez, do you have questions of
2 the Oxy panel?

3 MS. GUTIERREZ: Good afternoon. No
4 questions of the Oxy panel. Thank you.

5 MS. ORTH: Ms. O'Grady or Ms. Rushing?

6 MS. O'GRADY: Thank you, Madam Hearing
7 Officer. Conservation groups do have
8 cross-examination questions. But as a preliminary
9 matter, our expert, Dr. Charles Harvey, has a
10 commitment at -- today at 2 p.m. our time. And so
11 respectfully, if folks are amenable, I've consulted
12 with the other Counsel and we would like to break for
13 the day after Oxy's witnesses go. It's a commitment
14 from 2 to 4 p.m. our time.

15 MS. ORTH: I'm -- I'm sorry. So we
16 would ...

17 MS. O'GRADY: Break for the day and --
18 and resume on Monday.

19 MS. ORTH: Oh, at 2 p.m.?

20 MS. O'GRADY: Is that possible?

21 MS. RUSHING: Just whenever Oxy's
22 witnesses are done.

23 MS. O'GRADY: Of course.

24 Apologies. If -- if -- whenever Oxy's
25 witnesses finish, to clarify.

1 MS. ORTH: Okay. I understand.

2 Commissioners, it's -- I'm here to serve.

3 DR. AMPOMAH: No, it works for me.

4 MR. CHANG: That works for me as well.

5 This is the Chair on the platform.

6 DR. AMPOMAH: But -- but just to
7 clarify, is Monday going to be at 2 p.m. or regular
8 time?

9 MS. ORTH: Regular time.

10 DR. AMPOMAH: Okay. Thank you.

11 MS. ORTH: Commissioner Czoski, any
12 input?

13 MS. CZOSKI: Yeah, that works for me.

14 MS. ORTH: All righty. We have a plan.

15 MS. O'GRADY: Thank you all so much for
16 your flexibility. We really appreciate it. I am
17 going to have questions for Ms. Wallace, and then my
18 co-counsel, Rose Rushing, will have questions for
19 Ms. Wachtman.

20 Good afternoon. My name is Morgan
21 O'Grady. I'm an attorney with the Western
22 Environmental Law Center representing conservation
23 groups. How are --

24 MS. ORTH: Slow down. Slow down a
25 little.

1 MS. O'GRADY: Thank you.

2 How are you today, Ms. Wallace?

3 MS. WALLACE: I'm good.

4 MS. O'GRADY: Good. Ms. Wallace, you
5 state on paragraph 11 of your direct testimony that
6 HB458 gives the division the authority to regulate
7 carbon dioxide injection and to establish the
8 necessary rules for its implementation. Is that
9 correct?

10 MS. WALLACE: You said paragraph --
11 which one?

12 MS. O'GRADY: Eleven.

13 MS. WALLACE: Yes.

14 MS. O'GRADY: And you're not a -- an
15 attorney; correct?

16 MS. WALLACE: Absolutely not.

17 MS. O'GRADY: You propose in your
18 direct testimony that the division amend the rules to
19 require the cessation of injection in only the
20 impacted well in the event of evidence showing that
21 the injected carbon dioxide stream and associated
22 pressure front may cause an endangerment to an
23 underground source of drinking water; correct?

24 MS. WALLACE: That is correct.

25 MS. O'GRADY: And the purpose of this

1 proposed change is to clarify that operators of
2 multiple wells need not cease injection in all wells,
3 only at the impacted well?

4 MS. WALLACE: That is correct.

5 MS. O'GRADY: Is it possible that an
6 operator could have multiple wells injecting carbon
7 dioxide into the same formation?

8 MS. WALLACE: Potentially, but then I
9 would say that those would be defined as impacted
10 wells within that project.

11 MS. O'GRADY: Okay. You're -- jumping
12 back to your qualifications. You're a petroleum
13 engineer by training, an MS in petroleum engineering
14 from Texas A&M?

15 MS. WALLACE: Yes.

16 MS. O'GRADY: And your current role is
17 managing policy and external affairs for Oxy in the
18 lower 48?

19 MS. WALLACE: Yes.

20 MS. O'GRADY: You're not a certified
21 public accountant?

22 MS. WALLACE: No.

23 MS. O'GRADY: You're not a chartered
24 financial analyst?

25 MS. WALLACE: No.

1 MS. O'GRADY: And you have not held a
2 corporate treasury or controller position?

3 MS. WALLACE: No.

4 MS. O'GRADY: Paragraphs 36 through 40
5 of your testimony offer opinions about working
6 capital, corporate solvency, and how companies should
7 deploy capital; correct?

8 MS. WALLACE: That is correct.

9 MS. O'GRADY: And those are offered in
10 your capacity as a policy witness for Oxy, not as a
11 financial expert?

12 MS. WALLACE: That is true.

13 MS. O'GRADY: At paragraph 37, you
14 testified that, in general, companies try to minimize
15 working capital or create negative working capital to
16 free up cash for other uses; correct?

17 MS. WALLACE: Yes.

18 MS. O'GRADY: And you identified those
19 other uses as acquisitions, shareholder returns, and
20 debt reduction?

21 MS. WALLACE: Yes.

22 MS. O'GRADY: Capital that has been
23 deployed into an acquisition is not available to plug
24 a well or otherwise deal with circumstances as they
25 come up?

1 MS. WALLACE: Not that specific
2 capital, no.

3 MS. O'GRADY: The purpose of a net
4 working capital requirement is to confirm that liquid
5 resources exist to meet obligations when they come
6 due?

7 MS. WALLACE: Yes. There are also --
8 yeah. Yes.

9 MS. O'GRADY: And your testimony is
10 that a well-run company will deliberately structure
11 itself so that the liquid resources are held -- that
12 are held are minimal?

13 MS. WALLACE: That's true, because
14 holding onto too much capital -- and this comes also
15 from my development background -- holding onto too
16 much capital, there can actually be poor decisions --
17 poor business decisions made with the capital on hand.
18 That doesn't mean that companies of certain size and
19 metrics can't also have other levers to pull to
20 provide capital as needed for things like emergencies,
21 of course.

22 MS. O'GRADY: You kind of jumped to
23 another question that I was going to ask, which is
24 that -- would you agree that not all companies or
25 operators would have the same amount of working

1 capital, or alternatively, other financial levers
2 available to them as Oxy?

3 MS. WALLACE: I -- I would agree that
4 it varies how companies choose to deal with that. In
5 all the companies I worked, the optionality was always
6 there.

7 MS. O'GRADY: And if there were less
8 working capital available, it might -- it might also
9 indicate that there's less working capital available
10 to deal with emergencies as they come up?

11 MS. WALLACE: It could indicate that,
12 yeah. That's fair.

13 MS. O'GRADY: Okay. That's all that I
14 have at this time for you. Thanks. I'm going to pass
15 it over to my co-counsel, Rose Rushing.

16 MS. RUSHING: Thank you. And my
17 questions are for Ms. Wachtman.

18 Ms. Wachtman, I'd like to -- well,
19 first, good afternoon and hope you had a good lunch.
20 I'd like to begin with the area of review. You
21 testify in paragraph 16 of your rebuttal testimony
22 that defining the area of review at the pressure front
23 scale is unnecessary because Oxy's own EPA Region 6
24 permitted projects demonstrate that area of review
25 delineations approximately account for pressure

1 effects; correct?

2 MS. WACHTMAN: Yes, that's correct.

3 MS. RUSHING: And how many sites has
4 Oxy injected CO2 for geologic storage, not enhanced
5 oil recovery?

6 MS. WACHTMAN: So Oxy has permitted a
7 project in Ector County. We have not yet commenced
8 injection.

9 MS. RUSHING: So Oxy has no operating
10 Class VI or geologic storage project?

11 MS. WACHTMAN: There are no operating
12 Class VI projects for Oxy right now.

13 MS. RUSHING: Okay. Well, that gets me
14 through my next couple questions. At paragraph 16,
15 you state that Dr. Harvey acknowledges pressure can
16 propagate more than 100 kilometers while plumes extend
17 to only 10 kilometers; correct?

18 MS. WACHTMAN: I believe that's what he
19 says in his testimony, yes.

20 MS. RUSHING: And you don't dispute
21 that physical phenomenon anywhere in your rebuttal; do
22 you?

23 MS. WACHTMAN: No. Depending on site
24 specific characteristics, pressure can propagate a lot
25 farther than CO2 can.

1 MS. RUSHING: Would you agree that
2 elevated formation pressure can drive brine upward
3 through a legacy wellbore or transmissive vault via
4 this pressure into areas where the CO2 itself never
5 reaches?

6 MS. WACHTMAN: So it depends. So it
7 depends on whether that pressure differential is
8 sufficient to drive brine or CO2 into a USDW, and
9 that's how the AoR is defined.

10 MS. RUSHING: "So it depends," would
11 indicate that sometimes that can happen?

12 MS. WACHTMAN: That's how the AoR is
13 defined in having a pressure differential sufficient
14 to drive brine or CO2 into a USDW.

15 MS. RUSHING: So there could be a zone
16 larger than the plume where injection could endanger a
17 USDW without CO2 present?

18 MS. WACHTMAN: It could. And that's
19 why the definition from the EPA takes into account
20 both pressure and plume. But again, it's the pressure
21 differential not just any amount of pressure.

22 MS. RUSHING: Okay. And you object
23 that Dr. Harvey's definition or conservation groups'
24 proposal would make monitoring and corrective action
25 obligations impossibly large and unworkable for any

1 commercial project; correct?

2 MS. WACHTMAN: Do -- do I object that
3 it would -- can you just state that one more time?

4 MS. RUSHING: I'm so sorry. You object
5 that this proposal to redefine the AoR would make
6 monitoring and corrective action impossibly large and
7 unworkable; correct?

8 MS. WACHTMAN: If the pressure front
9 is -- or I should say if any zone of elevated pressure
10 is used or if the zone of area of review is meant to
11 be ten miles in radius, then that could lead to
12 unworkable projects.

13 MS. RUSHING: Okay. Moving on to
14 agency capacity. You testify on paragraph 22 of your
15 rebuttal testimony that you do not support a mandatory
16 third-party verification requirement because the
17 division has the technical capacity and resources to
18 perform this review and analysis; correct?

19 MS. WACHTMAN: Yes.

20 MS. RUSHING: Were you able to watch
21 OCD's testimony and questioning this week?

22 MS. WACHTMAN: I was.

23 MS. RUSHING: Did you hear OCD witness
24 Justin Wrinkle testify that the modeling would be
25 performed exclusively by outside contractors?

1 MS. WACHTMAN: So I think there's a
2 difference there between evaluation of models and the
3 OCD's ability to do that in-house versus leveraging
4 outside experts. And so it's, I think, perfectly
5 within their responsibility to leverage outside
6 experts when their capacity is limited or when they
7 need additional capacity to support a technical
8 evaluation.

9 MS. RUSHING: How does Oxy currently
10 perform AoR modeling for Class VI projects?

11 MS. WACHTMAN: So Oxy has a robust
12 group of engineers, simulation modelers, geologists,
13 geophysicists, and so that work is done in-house.

14 MS. RUSHING: Okay. I know that this
15 isn't maybe something that -- have you worked with
16 previous oil and gas companies before Oxy?

17 MS. WACHTMAN: I have.

18 MS. RUSHING: Do you think, based on
19 that experience, that smaller operators would hire
20 subcontractors to perform their modeling?

21 MS. WACHTMAN: It depends. So there
22 would be other companies that are similarly sized to
23 Oxy and have that capacity in-house, wouldn't need to
24 look external. If they didn't have that capacity
25 in-house, then they would need to look external.

1 MS. RUSHING: Is there anything in this
2 rule that would prevent OCD and the permit applicants
3 from hiring the same subcontractor?

4 MS. WACHTMAN: I don't know that I can
5 answer that question. I'm not sure.

6 MS. RUSHING: Would that be a potential
7 conflict of interest if the same subcontractor is
8 hired to develop an application and then verify that
9 same application?

10 MS. WACHTMAN: Again, I'm not sure that
11 I can answer that question. I think that would be up
12 to the OCD to determine.

13 MS. RUSHING: Understood. Okay.
14 Moving on to the timeline of the AoR reevaluation.
15 You testify on paragraph 25 of your rebuttal testimony
16 that the area of review reevaluation requirements
17 proposed by the division are already sufficient.

18 In support of your statement, you
19 testified that Oxy's Region 6 permitted projects
20 already successfully operated at five-year intervals.
21 I would ask how that works if you just acknowledged
22 that none of your Class VI projects have begun in
23 operation?

24 MS. WACHTMAN: So it's true that we
25 haven't begun operation. We do have permits, and we

1 expect to be able to report on a five-year basis. And
2 we've staged our testing and monitoring to be able to
3 support that.

4 MS. RUSHING: Okay. So you -- all
5 right. Thank you. On to self-bonding. You testified
6 on paragraph 32 of your rebuttal testimony that Oxy
7 proposes eliminating self-insurance. Are you aware
8 that the EPA bonding rules were passed prior to the
9 failure of self-bonding for the three largest coal
10 companies?

11 MR. TUCKER: Objection. Would you mind
12 rephrasing? I think you misstated Oxy's position
13 there.

14 MS. RUSHING: Oh.
15 You testified in paragraph 32 of your
16 rebuttal testimony that Oxy opposes eliminating
17 self-insurance?

18 MS. WACHTMAN: That is correct.

19 MR. TUCKER: Thank you. Sorry. I may
20 have misheard it. I'm sorry.

21 MS. RUSHING: No, I'm so sorry. I
22 probably read that wrong. I -- I have a hard time
23 reading off of the paper. If you guys ever saw the
24 documentary Anchorman, I'm a lot like that scene where
25 he just keeps reading off the transcript. Apologies.

1 So I read that wrong -- I read it wrong.

2 Are you aware that EPA bonding rules
3 were passed prior to the failure of self-bonding in
4 the three largest coal companies?

5 MS. WACHTMAN: I believe there was
6 testimony to that effect this morning.

7 MS. RUSHING: You testified that
8 eliminating self-insurance would place New Mexico out
9 of step with the federal program and other primacy
10 states. Are you aware that Louisiana rejected
11 self-bonding for their primacy scheme?

12 MS. WACHTMAN: I believe that Louisiana
13 made a decision that was right for Louisiana. Texas
14 and other primacy states made a different decision.

15 MS. ORTH: Would you both please slow
16 down?

17 MS. RUSHING: Sorry. Yes.

18 MS. WACHTMAN: Yes.

19 MS. RUSHING: I apologize. One moment.

20 I'd like to move to gauge malfunctions.
21 You testified at paragraph 54 of your rebuttal
22 testimony that Oxy opposes mandatory reporting of all
23 gauge malfunctions and instrumentation failures
24 because routine instrumentation issues do not indicate
25 mechanical integrity loss or underground source of

1 drinking water endangerment; correct?

2 MS. WACHTMAN: Yes.

3 MS. RUSHING: And at paragraph 59, you
4 testified that Oxy opposes requiring 24-hour reporting
5 and shutdown for gauge malfunctions lasting longer
6 than one week?

7 MS. WACHTMAN: Yes.

8 MS. RUSHING: If a monitor stops
9 supplying data or supplies data that is clearly
10 physically meaningless, is it malfunctioning?

11 MS. WACHTMAN: That could indicate a
12 malfunction.

13 MS. RUSHING: So if a monitor stops
14 supplying meaningful data, can it confirm that there
15 is no source of endangerment to USDWs?

16 MS. WACHTMAN: So for these type of
17 projects, there are multiple different ways that
18 you're demonstrating mechanical integrity, and gauges
19 are one of them. And so for some projects, you might
20 have distributed temperature -- fiber basically in
21 your wells that's looking at real-time data. You may
22 have surface gauges, downhill gauges. So there's a
23 variety of mechanisms that are demonstrating
24 mechanical integrity.

25 MS. O'GRADY: Thank you. I'm going to

1 jump in with one question.

2 MS. WACHTMAN: Sure.

3 MS. O'GRADY: During your summary of
4 rebuttal testimony, you testified that surface air
5 monitoring devices only cover a small area --
6 relatively small surface area. Is that correct?

7 MS. WACHTMAN: Correct.

8 MS. O'GRADY: What is the footprint of
9 an any covariance tower that would monitor carbon
10 dioxide fluxes from the land surface?

11 MS. WACHTMAN: So I don't -- I don't
12 know. I can't speak to specifics. I can say from my
13 experience though on projects, the Ector County
14 project we looked at, even to cover an area that -- of
15 a wellpad, which might be 200 feet by 200 feet, it
16 would require multiple air monitoring devices to do
17 that. So to try to expand that to an area of review
18 would be hundreds to thousands of air monitoring
19 devices.

20 MS. O'GRADY: Okay. Okay. Thank you.

21 MS. RUSHING: Okay. Moving on to
22 continuous on-site staffing. You acknowledge that at
23 paragraph 55 of your rebuttal testimony that
24 conservation groups propose that either one employee
25 be on the premises or otherwise available at all times

1 to carry out an emergency response -- I apologize.
2 Give me one second to review this question.

3 MS. O'GRADY: You acknowledge at
4 paragraph 55 of your rebuttal testimony that
5 conservation groups propose that either one employee
6 be on the premises or otherwise available to carry out
7 an emergency response. Is that correct?

8 MR. MORGAN: Yes.

9 MS. O'GRADY: You did not offer
10 rebuttal testimony opposing the requirement of an
11 employee being otherwise available to carry out an
12 emergency response?

13 MS. WACHTMAN: Typically, there are
14 employees who could be called on to carry out an
15 emergency response.

16 MS. O'GRADY: Would you agree that not
17 all operators necessarily follow the same practices of
18 having personnel on site -- or sorry -- otherwise
19 available to carry out emergency responses?

20 MS. WACHTMAN: Well, I think it would
21 depend upon what is in their emergency response plan
22 and what's approved by the director, what's
23 appropriate for that particular site, how their
24 automatic shutoff controls work, all those sorts of
25 things. So I think it would need to be a discussion

1 between the division and the director and that
2 operator, how they would handle those situations.

3 MS. O'GRADY: But Oxy does have people
4 who are available generally is what you just testified
5 to?

6 MS. WACHTMAN: Companies -- companies
7 of Oxy's size, particularly in areas where there are
8 field operations, will oftentimes manage those field
9 operations from a central command center, and the
10 central command centers may be serving a variety of
11 different assets at the same time and would have
12 resources to be able to execute an emergency response
13 if needed.

14 MS. O'GRADY: And if this were a
15 requirement in the role to have someone who's
16 available, whether on-site or off-site, having someone
17 who's available at all times, that requirement would
18 apply to all operators regardless of the size?

19 MS. WACHTMAN: If it were written into
20 rule, it would presumably apply to everyone. I think
21 the on-site part is a real concern here. The on-site
22 is not something that most operators would do and also
23 not really necessary given the automatic shutoff
24 controls that would be in place for these kinds of
25 projects.

1 MS. O'GRADY: And with conservation
2 groups' proposal, there would either be the option
3 between someone on-site or otherwise available as
4 currently drafted?

5 MS. WACHTMAN: I believe that is how it
6 is currently drafted. Perhaps that's something that
7 could be described in guidance as opposed to in a
8 rule.

9 MS. O'GRADY: And then it would not be
10 required for operators of all sizes? Just to confirm.

11 MS. WACHTMAN: I guess it would be,
12 again, back to discussion of what's best for that
13 project.

14 MS. O'GRADY: Okay. Thank you.
15 Ms. Wachtman, can a plume of carbon dioxide be imaged
16 without seismic surveys?

17 MS. WACHTMAN: So there are some
18 technologies that can be used to image a plume. There
19 could be other types of geophysical surveys that could
20 be useful for that. Geochemistry can also help to
21 image the location of a plume.

22 MS. O'GRADY: Would a set of 2D surveys
23 be sufficient to characterize the shape of a carbon
24 dioxide plume?

25 MS. WACHTMAN: It depends. And so I

1 think it depends on the specific characteristics of
2 the site.

3 MS. O'GRADY: Okay. Thank you. Give
4 me just a moment, please. Conservation groups have no
5 further questions. Thank you so much for your time.

6 MS. WACHTMAN: Thank you.

7 MS. ORTH: Thank you.

8 Mr. Pavlik, do you have questions of
9 the Oxy panel?

10 MR. PAVLIK: No, Madam Hearing Officer,
11 no, we do not have any questions for the panel. Thank
12 you.

13 MS. ORTH: All right. Thank you.

14 Has Ms. Ruscavage-Barz joined us on the
15 platform, Sheila?

16 MS. APODACA: No, I have nothing from
17 her.

18 MS. ORTH: All right. Thank you.

19 Mr. Tremaine, do you have questions of
20 the Oxy panel?

21 MR. TREMAINE: I do. Just a few.
22 Thank you.

23 Good afternoon, Ms. Wallace and
24 Ms. Wachtman. My name is Jesse Tremaine from the Oil
25 Conservation Division. Thank you. I have -- I think

1 I have a number of questions that I will direct at
2 Ms. Wallace, but if it's necessary to step in and
3 answer, feel free.

4 So I had just a -- a clarification off
5 the top, and you answered some of this, but I want a
6 little more detail. Ms. Wallace, will you just
7 confirm that either Oxy or Oxy affiliates are in the
8 process of developing Class II projects?

9 MS. WALLACE: Yes, we are.

10 MR. TREMAINE: And do you also expect
11 to develop Class II EOR projects?

12 MS. WALLACE: Yes.

13 MR. TREMAINE: Okay. I believe it was
14 Ms. Wachtman that indicated that you do have some
15 Class VI related permits already. Is that correct?

16 MS. WALLACE: We do. We've got three
17 Class VI permits in Texas.

18 MR. TREMAINE: Okay. And to clarify,
19 are those construction permits, injection permits?
20 What stage are you at?

21 MS. WALLACE: Both. So we have the
22 permit to construct, and we have authorization to
23 inject.

24 MR. TREMAINE: Okay. And are -- bear
25 with me here. But are there any of your permits

1 contemplated to be cited in locations with geology
2 that is analogous to potential Class VI sites in New
3 Mexico?

4 MS. WALLACE: So that project is -- the
5 three permits are located in the Permian Basin, and
6 the Permian Basin extends into New Mexico.

7 MR. TREMAINE: Are you familiar with
8 the AoR modeling associated with those projects?

9 MS. WALLACE: I am.

10 MR. TREMAINE: Okay. And in your
11 experience, what is the range of AoR size determined
12 by the Oxy or Oxy-affiliated models with which you are
13 familiar?

14 MS. WALLACE: In that particular
15 project -- I can speak to that particular project, or
16 are you asking in general?

17 MR. TREMAINE: In -- in general, but
18 without knowledge of your particular projects, I'll
19 invite you to answer. I'm particularly interested in
20 hearing and providing for the Commission an answer
21 about AoR size for projected projects that are, again,
22 the most analogous to the geology of sites in New
23 Mexico.

24 MS. WACHTMAN: Sure. So the size of
25 the AoR is going to be dependent on a number of

1 things. One of which is the permeability of the
2 injection zone, also going to be dependent on the rate
3 and overall quantity of CO2 that's injected. The
4 project that we've permitted in Ector County has an
5 area of review that's approximately six square miles,
6 so around two miles kind of in diameter away from the
7 Class VI injection wells.

8 MR. TREMAINE: Thank you. I'm going to
9 jump around here for a second and I'd like to --

10 Ms. Apodaca, if I could please have
11 screen share capability again.

12 And while that is happening,
13 Ms. Wallace, you testified earlier, and there was some
14 back and forth in direct and -- and rebuttal testimony
15 regarding the appeals or adjudication process. And so
16 I just want to share the screen and ask you a question
17 about a potential proposed structure.

18 And if I may, and with the
19 understanding you are not an attorney and that I'm not
20 asking you for a legal interpretation, I would like
21 for you to take a look at this last -- what is
22 currently -- and I will note for the record it needs
23 to be renumbered in the final rule --
24 19.15.42.13(a)(ii) where the division has proposed a
25 cross-reference for the manner in which any

1 enforcement-related matters would be conducted. Have
2 you reviewed that or are you able to review Subsection
3 (a)(ii) at this time?

4 MS. WALLACE: I have not reviewed that
5 until now, but I can.

6 MR. TREMAINE: Okay.

7 MS. WALLACE: Okay. So I ...

8 MR. TREMAINE: So I don't want to ask
9 you about any enforcement-related matters. I just
10 want to ask you if in the appropriate location there
11 was a proposal to -- to draft incorporate language in
12 the same manner and structure as is here referencing
13 the adjudication process. Would that satisfy Oxy's
14 technical and operational concerns regarding
15 adjudications?

16 MS. WALLACE: Yes.

17 MR. TREMAINE: Thank you. Ms. Wallace,
18 I have a few more questions talking about monitoring
19 and et cetera. But taking into account your
20 correction today, recommending periodic instead of
21 annual -- just bear with me, and if I get something
22 wrong here, please clarify. But Ms. Wallace, in your
23 experience, do you agree that groundwater chemical
24 concentrations above a combining zone may vary
25 seasonably -- seasonally?

1 MS. WALLACE: Yes.

2 MR. TREMAINE: Okay. Would you agree
3 that in the event of an unidentified leak, the longer
4 period between sampling would create a potential delay
5 in detection of that unidentified leak?

6 MS. WALLACE: Yes.

7 MR. TREMAINE: Will you agree that
8 quarterly sampling provides a more statistically
9 meaningful population which demonstrates expected
10 changes in soil CO2 due to seasonal variations?

11 MS. WALLACE: I would agree that
12 quarterly can also mean periodic depending on how it's
13 defined within the development plan with the division.

14 MR. TREMAINE: So -- and to -- and to
15 clarify -- to be fair and to clarify, periodic as
16 proposed by Oxy could mean --

17 MS. WALLACE: Yes.

18 MR. TREMAINE: -- potentially quarterly
19 or --

20 MS. WALLACE: Monthly, annually. Yep.

21 MR. TREMAINE: And that would be
22 determined in your mind during the permitting process?

23 MS. WALLACE: Correct.

24 MR. TREMAINE: Okay. In your
25 testimony, I believe that you opposed the more

1 frequent AoR reevaluation proposal. Is that correct?

2 MS. WALLACE: Yes.

3 MR. TREMAINE: If -- in your
4 experience, if the modeled pressure data reasonably
5 matches the available monitoring data, how long would
6 it take for Oxy to perform a -- a reevaluation?

7 MS. WALLACE: Some time, but that's
8 probably a better answer by Caroline as far as
9 modeling.

10 MR. TREMAINE: That's fine. So if
11 you -- if your -- if your model and your -- and your
12 monitoring numbers are matching, how long would it
13 take Oxy to perform a reevaluation of the AoR?

14 MS. WACHTMAN: Yeah. I mean, I think
15 it depends on the amount of data that you have, and it
16 depends on how the model is constructed and how easy
17 it is to update and integrate that data. So I think
18 it's -- it's going to be project specific and site
19 specific. In some cases, it may be on the order of
20 months. In some cases, it may be on the order of many
21 months to be able to incorporate that data.

22 MR. TREMAINE: Would you agree that if
23 the model pressure does not reasonably match the
24 available monitoring data that that would require
25 corrective action under proposed 19.15.43.9,

1 specifically E5?

2 MS. WACHTMAN: If monitoring data in
3 what capacity? So help me understand specifically
4 there.

5 MR. TREMAINE: Yeah. If the -- if Oxy
6 is operating the project and you observe monitoring
7 data that is -- does not reasonably match the modeled
8 pressure data, would that require, in your opinion,
9 corrective action?

10 MS. WACHTMAN: So corrective action is
11 typically applied to wellbores. I mean, are you
12 asking about --

13 MR. TREMAINE: Triggering AoR
14 reevaluation.

15 MS. WACHTMAN: So I think it would --
16 it would depend. It would depend on the magnitude of
17 that pressure differential. It would depend on other
18 supporting data. And so one of the kind of key
19 characteristics of these projects is that there is a
20 variety of testing and monitoring data that is
21 integrated together to be able to understand how CO2
22 is behaving. I'm speaking too fast. I'll slow myself
23 down there.

24 There -- there's a variety of data
25 that's used to integrate together to -- to determine

1 how CO2 and pressure are moving in a subsurface. So
2 if we received or we're -- we're receiving anomalous
3 pressure data, we would potentially look for other
4 indicators, either in wellbores and monitoring wells,
5 perhaps using geophysical data to help confirm or
6 change our interpretation based on the preponderance
7 of data not just one piece of data.

8 MS. WALLACE: Mr. Tremaine, I'm sorry.
9 Could you give the reference that you were referencing
10 in that question?

11 MR. TREMAINE: Yes. Absolutely. Yeah.
12 I was referring to corrective actions under
13 19.15.43.9.5.

14 I'll spare you the -- the search here.
15 I have it -- I have it up. Sorry for the delay. I
16 actually had my note ready on the location, but
17 then -- so the -- I'm referring to -- this is in --
18 there's many subsections here. So I'm on page 7 of
19 OCD Exhibit Number 3, E5 -- or sorry, E, but then
20 specifically E5.

21 The questions that I'm asking are
22 about -- are getting to the AoR reevaluation period
23 which is why I was referencing E5, sorry for lack of
24 clarification. But generally, I am -- more
25 specifically, what I'm trying to ask is if you are

1 getting inconsistent data between what is modeled and
2 what is -- and -- and what is monitored, that it would
3 potentially require corrective actions under this
4 section. So I probably should have referred to E
5 rather than E5.

6 MS. WACHTMAN: I would say yes. If
7 you're receiving anomalous data -- if you receive
8 anomalous data, you're going to investigate the source
9 of that data. You're going to want to investigate
10 other sources of data.

11 And if it looks like that data is
12 substantiated, then -- then yes, in most cases, it
13 would result in a modification to the AoR or at least
14 a reevaluation of the AoR which could lead to
15 additional corrective actions if there were additional
16 wells that needed to be remediated.

17 MR. TREMAINE: Okay. And you probably
18 see where I'm going. If the -- if that evaluation
19 period is two years instead of five, would you agree
20 that that would compel operators to review that data
21 on a more frequent basis and avoid potential delays in
22 observations of monitored conditions that could
23 potentially require corrective actions?

24 MS. WACHTMAN: So in my mind, there's a
25 difference between updating the AoR and evaluating the

1 monitoring data. So evaluation of that monitoring
2 data is happening on a very frequent basis and needs
3 to be reported semi-annually and then on an annual
4 report. So -- so you're already evaluating and
5 reporting on that data on a very frequent basis that
6 may or may not need to result -- may not -- may or may
7 not result in a AoR reevaluation.

8 MR. TREMAINE: Okay. Thank you for
9 that clarification, Ms. Wachtman. If -- so I guess my
10 question then is that -- let me think on that. I'm
11 going to -- I'm going to move on. Thank you.

12 I want to ask you a couple questions
13 about the proposal to strike the spontaneous potential
14 from 19.15.43.9 H2. And, Ms. Wallace, I'm not going
15 to quiz you on the full language or content of that
16 rule, but can we agree that Oxy proposes to strike
17 spontaneous potential?

18 MS. WALLACE: Yes.

19 MR. TREMAINE: Okay. Really, can we --
20 can we simply agree that spontaneous potential is
21 specifically enumerated in the federal rule?

22 MS. WALLACE: Yes, that's true. We've
23 given the same feedback to them.

24 MR. TREMAINE: I -- I certainly
25 understand that. Can you understand the division's

1 concerns that striking a specifically enumerated log,
2 monitoring, testing method could raise stringency
3 analysis by the EPA?

4 MS. WALLACE: It could, but I've also
5 heard in testimony that the division may be willing to
6 go speak to EPA on that. And it doesn't necessarily
7 make it less stringent if it's not as good of a tool
8 as other things that are imposed.

9 MR. TREMAINE: Okay. Thank you.

10 All right. I actually have no further
11 questions. Thank you.

12 MS. ORTH: All right. Thank you,
13 Mr. Tremaine.

14 Is there any redirect?

15 MR. TUCKER: I actually do not have any
16 redirect, but I do think I need to admit my exhibits
17 at this time.

18 MS. ORTH: All right.

19 MR. TUCKER: If I could please admit
20 Oxy Exhibits 1 through 4.

21 MS. ORTH: I'll pause for a moment in
22 the event there are objections. Okay. The exhibits
23 are admitted. Thank you. Let's turn now to the
24 commissioners.

25 Mr. Chair on platform, do you have

1 questions of the Oxy panel?

2 MR. CHANG: Not at this time. I'd
3 like -- but I'd like to be after the commissioners
4 just in case.

5 MS. ORTH: All righty.

6 Commissioner Czoski, you want to start
7 off this time?

8 MS. CZOSKI: Yes.

9 Thank you for your time. I appreciate
10 you being here. So I think I'd like to start with
11 Ms. Wallace. So from your testimony, you said you
12 were a deputy director at the OCD?

13 MS. WALLACE: Yes, that's correct.

14 MS. CZOSKI: For -- for how long?

15 MS. WALLACE: Three years.

16 MS. CZOSKI: Great. Thank you. And in
17 your testimony, you said you're familiar with
18 correlative rights and implementing the Oil and Gas
19 Act. Is that right?

20 MS. WALLACE: I am familiar, yes.

21 MS. CZOSKI: And would you say it's --
22 would you say that protecting correlative rights
23 includes not committing waste? And would it be fair
24 to say that protecting correlative rights includes a
25 right to recover a volume of oil or gas substantially

1 proportional to what physically lies beneath a mineral
2 owner's tract of land?

3 MS. WALLACE: Yes.

4 MS. CZOSKI: Thank you. That's a
5 mouthful. And did you oversee hearing examiners at
6 your time at the OCD?

7 MS. WALLACE: I did.

8 MS. CZOSKI: And do you know if hearing
9 examiners have the duty to protect correlative rights?

10 MS. WALLACE: Yes. I believe all -- we
11 all do.

12 MS. CZOSKI: Thank you. So I kind of
13 have a question for you. Let's say Oxy has a -- an
14 existing oil and gas lease and somebody wants to come
15 in and put a Class VI well on your lease. Would you
16 want to get notice for that?

17 MS. WALLACE: Yes. And I believe the
18 process would already allow that.

19 MS. CZOSKI: Okay. Thanks. And do you
20 think that 30 days is enough notice for you to
21 review -- review and possibly appeal or protest the --
22 the Class VI well?

23 MS. WALLACE: It's enough notice to get
24 involved and potentially make any opposition known to
25 people.

1 MS. CZOSKI: Do you think you'd want --
2 do you think it'd be helpful to have it longer, or do
3 you think 30 days is sufficient?

4 MS. WALLACE: It's -- it's a bit of a
5 loaded question because we always want longer; right?
6 But I think I can also respect the division's choice
7 to put 30 days in there to keep these projects from --
8 from stalling out.

9 MS. CZOSKI: Okay. Yeah. Thank you.
10 And so kind of I have the opposite question now. So
11 what if Oxy wants to have a Class VI well on somebody
12 else's oil and gas lease? Who owns the CO2 that was
13 injected?

14 MS. WALLACE: It's a good question that
15 I would need to read up on some of the rules and regs
16 associated with that. I would expect that if Oxy was
17 going to lease a Class VI well on someone else's
18 lease -- that was your question; right?

19 MS. CZOSKI: Yeah, someone else's oil
20 and gas lease.

21 MS. WALLACE: That we would follow all
22 the policy procedures and regs to make sure proper
23 notification and that we had the right to do that.

24 MS. CZOSKI: Okay. Yeah. I mean,
25 for -- you might be aware, but for statutory oil and

1 gas leases with the State Land Office, carbon dioxide
2 is a resource that can be produced. So I was just
3 wondering how you would deal with that situation if
4 someone wanted to produce that CO2 that you injected?

5 MS. WALLACE: I think we would be
6 having conversations with the division and the State
7 Land Office.

8 MS. CZOSKI: Okay. Thank you. And as
9 the deputy director, did you ever sit or listen into
10 unit hearings?

11 MS. WALLACE: Not very often.

12 MS. CZOSKI: But you're familiar with
13 units?

14 MS. WALLACE: Yeah. Oh, yes. I'm
15 familiar with units. Yes.

16 MS. CZOSKI: Thank you. Do you think
17 having units for carbon sequestration would be useful
18 in order to inject over multiple land ownerships?

19 MS. WALLACE: I -- I don't know. I'd
20 have to think on that one.

21 MS. CZOSKI: Okay. So since you all
22 have done some Class VI permits already, I'm
23 interested in wondering if you know, are your areas of
24 review publicly available as part of the permitting
25 process?

1 MS. WACHTMAN: Yes. For our Ector
2 County project, it was part of our -- part of the
3 documents that were publicly available for review.
4 Yes.

5 MS. CZOSKI: Okay. Thank you. So
6 let's say Oxy had a lease in an area where you were
7 being notified that someone wanted to do a Class VI.
8 What kind of information would be useful for you all
9 to make a determination if you were going to put in a
10 protest or an appeal?

11 MS. WACHTMAN: Well, the information
12 that's usually included in these Class VI permits
13 is -- or permit applications, I should say, is usually
14 the information that we would want to know. So we
15 would want to know what injection zone they are
16 planning to inject CO2 into, potentially the volume
17 and the duration of injection that they planned, and
18 potentially the number of wells that they plan to use
19 and where those wells would be sited.

20 MS. CZOSKI: Okay. So for the Class VI
21 well projects you worked on, that information was
22 shared with people within the area of review?

23 MS. WACHTMAN: Well, the information is
24 publicly available to anyone regardless of their area
25 of review. There are oftentimes an additional set of

1 communication that goes out to folks who are affected
2 parties. And I think that definition of affected
3 parties would be different from state to state.

4 MS. CZOSKI: Okay. Yeah. Thank you.
5 So, Ms. Wallace, you mentioned in your testimony that
6 adding the appeal language helps with clarity. And do
7 you think clarity in the rules can also help reduce
8 modifications or future issues?

9 MS. WALLACE: Yes. They're sometimes
10 still needed, but yes, in general.

11 MS. CZOSKI: Thank you. And I'm just
12 wondering, you suggest that the emergency and remedial
13 response plan should only be updated every five years
14 rather than three years like the OCD is suggesting. I
15 was just wondering what your -- what your thoughts are
16 on that and why you think that five years is better?

17 MS. WALLACE: I think that had to do
18 with the federal consistency.

19 MS. WACHTMAN: Yeah. I believe that
20 was to be part of federal consistency.

21 MS. CZOSKI: And in your experience,
22 is -- is following the minimum EPA requirements the
23 fastest way for primacy to occur?

24 MS. WACHTMAN: We can't answer that
25 question.

1 MS. CZOSKI: Okay. And I was just
2 wondering if you could go into a little bit of your
3 community outreach and the first responder outreach
4 for some of these other Class VI wells you worked on?

5 MS. WACHTMAN: So -- so I can speak to
6 the project in Texas, the project in Ector County. So
7 there, what we did was to hold a series of community
8 information sessions, community meetings where we
9 invited anyone, but sent special notice to folks that
10 were within a five-mile radius of the Class VI
11 injection well, in part because nobody lives where our
12 Class VI injection wells are sited so we actually had
13 to go beyond what our AoR was in order to find people
14 who lived there.

15 But in that particular project, we did
16 notify them of having a community meeting. We invited
17 them to come, and we had poster sessions where they
18 were able to ask questions. At that meeting, we also
19 invited the Railroad Commission and the EPA were
20 invited to participate in those discussions as well.
21 So for community meetings, that's how we handled it.
22 For emergency -- you also asked about emergency
23 responders?

24 MS. CZOSKI: Yes.

25 MS. WACHTMAN: So we had another

1 meeting where we encouraged all of the emergency
2 response folks to come. And then there's a separate
3 effort there that Oxy typically engages in, because we
4 have other oil and gas operations in the area, to
5 reach out to those folks on a more regular basis and
6 engage with them about all of our operations in the
7 area not just about the Class VI project.

8 MS. CZOSKI: Okay. Thank you. And for
9 the projects you've worked on, have you ever done a
10 full characterization and modeling without 3D seismic
11 for Class VI wells?

12 MS. WACHTMAN: So in this particular
13 project in Ector County, we did acquire 3D seismic and
14 it was used in our evaluation after we had drilled an
15 initial stratigraphic test hole.

16 MS. CZOSKI: Thank you. Do you think
17 there would be a time that Oxy would not want to
18 collect 3D seismic to help understand the subsurface
19 geology?

20 MS. WACHTMAN: So I think, again, the
21 amount of data you need -- you don't collect data just
22 to collect data, but you collect it to answer specific
23 questions about site characterizations. So you need
24 to understand the characteristics of the storage
25 complex, which would be the injection zone, the upper

1 and lower confining zones, and the USDW.

2 And so you may be able to achieve that
3 with a variety of different tools in addition to 3D or
4 in place of 3D seismic. So there could be a
5 combination of 2D and 3D, or it could be a combination
6 of 2D and -- and wells, depending on how many other
7 well penetrations are in the area. So there -- a
8 variety of data would be used to integrate together to
9 come up with a characterization.

10 MS. CZOSKI: Thank you. And in your
11 modeling, do -- do you look at all faults, you know,
12 in the entire area of review or just ones that
13 transect the injection and confining zones?

14 MS. WACHTMAN: And I can say from my
15 experience, when you're doing mapping, you're
16 typically going to map all of the faults that are
17 present, and then you make a determination on whether
18 they are intersecting the confining zone or not. But
19 typically, all faults are evaluated. And those that
20 could be potential leaking pathways would be elevated
21 as being areas for further investigation.

22 MS. CZOSKI: Okay. Thank you. I think
23 that's all my questions. Thank you for your time.

24 MS. ORTH: Thank you.

25 Commissioner Ampomah, do you have

1 questions?

2 DR. AMPOMAH: Yes, I do.

3 Thank you, Ms. Wallace and
4 Ms. Wachtman, for your testimony today. We do
5 appreciate your presence here today as well. I do
6 have a couple of questions, and I just want to go
7 through the rule. I believe it's also more or less in
8 line with your PowerPoints, so I can give references
9 to the pages and then also to your PowerPoints as well
10 for easy -- to make it easy to follow. Okay.

11 So I'm going to start with Oxy Exhibit
12 1A, which will be number 42.1, I believe. So that'll
13 be on slide 5 of your presentation. Now, so I'm
14 getting more into a situation where I want to see
15 where the consensus -- where we can have consensus.
16 So on this provision, you -- you want to move, let's
17 say, the two years to five years. After that, you
18 want to strike down the two to five years.

19 Now, you described some scenario as
20 a -- you said the two-year time frame may not allow
21 for enough time to develop pipelines and other
22 critical infrastructure associated over the project.
23 Now, let me ask, don't you believe that this will be
24 one of the reasons why OCD might determine it as a
25 good cause?

1 MS. WALLACE: Yes.

2 DR. AMPOMAH: So what that means is
3 that even if we, more or less, go for the two years,
4 Oxy will still have the opportunity to more or less
5 use this reason to get an extension?

6 MS. WALLACE: Yes, absolutely. And
7 that's written in the draft rule that you can apply
8 for extensions, and I would imagine for a reason like
9 that would be granted. I think our point was what
10 we're seeing with these projects is they are -- it
11 takes so much longer than the two years. We're likely
12 going to be filing extensions.

13 And so for a burden of the division and
14 the operators, does it just make sense to mirror the
15 federal? No, actually, the federal doesn't have a
16 requirement on this. We talk about that as part of
17 remaining with the federal.

18 DR. AMPOMAH: Now, as I read through
19 the -- your reasoning in your testimony, you talked
20 about the fact that, well, the five years should be
21 enough for operator to more or less at least hit the
22 ground running. Is that correct?

23 MS. WALLACE: I hope so.

24 DR. AMPOMAH: Okay. So then let me
25 ask, would you be willing to negotiate with OCD?

1 Because OCD did not provide the timeline, you know,
2 the exact -- let's say you can go for only one
3 extension, two extensions, probably five years. So
4 would -- would you be open to negotiate with OCD where
5 at least they can keep the two years, because you can
6 get extension, but put a cap on it to five years?

7 MS. WALLACE: Okay. So clarify that,
8 it would -- you could never go beyond five years?

9 DR. AMPOMAH: Yes.

10 MS. WALLACE: Okay. So let's back up.
11 I'd always be willing to negotiate with OCD, but I do
12 think putting a cap on it is very similar to the
13 situation we get into with the AoR where lots of
14 things outside of even the project plan can come into
15 play that could delay things that are outside of our
16 control.

17 DR. AMPOMAH: Now, I asked OCD this
18 question and they -- they were willing to look at it
19 and then see if they can put a cap on it, so that is
20 why I'm inviting you to join that body and discuss and
21 see. Because based on your testimony, you're saying
22 that definitely five years would be enough for
23 operator to at least hit the ground running.

24 Now, don't you believe that if we allow
25 it to go on without any cap, don't you believe that

1 some companies can use that as a leverage to more or
2 less get more pore space, because they do have the AoR
3 and they can use that to challenge every permit that
4 is being put out there?

5 MS. WALLACE: Okay. So a couple things
6 you mentioned that I think are key points. Hit the
7 ground running; I -- I would need to understand more
8 what that means, how much progress would need to be
9 made. It's for hit the ground running; right? Number
10 one.

11 Number two, I think I'd have to defer
12 to my colleague as to her hope. I -- I was hopeful we
13 could get something done, maybe not project completion
14 in five years, but five years is a good amount of time
15 to make progress. I don't know, given circumstances
16 outside of our -- our control, like global supply
17 chains, pricing, et cetera, how long that could stall
18 it. And that's my hesitance on a cap for you can
19 never go beyond five years.

20 DR. AMPOMAH: So when I say hit the
21 ground run, it means start the well.

22 MS. WALLACE: Okay.

23 DR. AMPOMAH: Yeah.

24 MS. WALLACE: Okay.

25 DR. AMPOMAH: So then I believe

1 definitely you would have to check what OCD is going
2 to do because, I mean, they committed to look into
3 this.

4 MS. WALLACE: Yes.

5 DR. AMPOMAH: So would you also look
6 into probably -- even if they put a cap, you come up
7 with some -- some stipulations, some kind of
8 flexibility to more or less account for what you were
9 describing?

10 MS. WALLACE: There might be some
11 situations within there that I'm sure they would agree
12 are -- could stall the project further that are of no
13 one's fault.

14 DR. AMPOMAH: Yeah. But you did not
15 respond to the question about some companies using it
16 as a leverage.

17 MS. WALLACE: Oh, yes. You're right.
18 I missed that one. Could that happen? Yes. There
19 are always going -- I think I -- I testified this in
20 another hearing too; there are always going to be
21 abuses in the system. It's the nature of us all being
22 human and working in the business.

23 However, I think that the companies who
24 are going to be chasing these types of projects are
25 not the type of people that I think are wanting to do

1 that. They're very costly. They're skinny economics.
2 They're very cutting-edge science. I don't -- I -- I
3 would like to say that I hope that those are not the
4 types of people chasing the projects.

5 DR. AMPOMAH: Okay. That's good to
6 know. So let's go to slide number 6 on the appeals.
7 So initially, OCD saying this one is already in our
8 rules, we don't necessarily have to put it in here.
9 Now, but they were open. You know, they said, "Okay,
10 we are open to look at that."

11 Now, could you work with OCD to come up
12 with a language to make sure that what you are
13 proposing here is consistent with what is already in
14 their rules?

15 MS. WALLACE: Definitely.

16 DR. AMPOMAH: Okay. Thank you. I'm
17 going to go to slide number 7. I need to open quite a
18 number of pages. Now, you are proposing a new
19 language about non-material, non-substantive permit
20 modifications that do not increase the risk to USDWs.
21 I do have some few questions for you. Now, who
22 determines whether a modification is non-material?

23 MS. WALLACE: The director or the
24 division.

25 DR. AMPOMAH: Okay. And what objective

1 is the director going to use?

2 MS. WALLACE: Go ahead.

3 MS. WACHTMAN: So -- so I think the --
4 the criteria would be is this an additional risk to
5 USDWs or not? I think that would be an important
6 criteria that the director would consider.

7 DR. AMPOMAH: Okay. So I'm going to go
8 to -- Ms. Wallace, this will be your direct testimony.
9 So I'm looking at number 21; number 21 of your direct
10 testimony.

11 MS. WALLACE: Do you have a section
12 number? I'm sorry.

13 DR. AMPOMAH: Okay. So this one would
14 be 621.

15 MS. WALLACE: Give me the subject --
16 the title. Sorry.

17 DR. AMPOMAH: Okay. No problem. So
18 this one is on the minor modification of permits.

19 MS. WALLACE: So I think that's
20 19.15.42.10.J; right?

21 DR. AMPOMAH: That is correct.

22 MS. WALLACE: Okay.

23 DR. AMPOMAH: Okay. So if I read 21,
24 you're saying that refining subsurface models and
25 project plans as new data is obtained is standard

1 practice in subsurface development activities. Did I
2 read that correctly?

3 MS. WALLACE: Yes.

4 DR. AMPOMAH: Don't you believe that
5 refining models, there's a high possibility that AoRs
6 are going to change, and you believe that is not a
7 major change in your permit?

8 MS. WACHTMAN: So I would say, based on
9 my own experience, it -- it really depends. And so it
10 depends on whether that change in AoR is going to, for
11 example, intersect another fault or intersect a
12 different wellbore that wasn't previously considered
13 in the evaluation. If that change in AoR doesn't
14 intersect any other potential leakage pathways, then
15 it isn't really a material change that would impact a
16 USDW.

17 DR. AMPOMAH: Impacting the USDW.
18 But -- so the -- is the AoR not the centerpiece of the
19 permit?

20 MS. WACHTMAN: It is a very important
21 part of the permit.

22 DR. AMPOMAH: So if there is a change
23 in the AoR, does that not change -- I mean, could that
24 not change your monitoring strategy?

25 MS. WACHTMAN: Potentially.

1 DR. AMPOMAH: So in that -- in that
2 one, I mean, the reason that you are providing here
3 with regards to the models, I -- I don't -- I disagree
4 a little bit because definitely your AoR is going to
5 change. And once the AoR changes, then that is major
6 changes to your plan.

7 MS. WALLACE: So I think our concern
8 was that tweaks in the AoR are certainly expected as
9 you get more data. I think our concern and a major
10 modification would be a tweak that would then affect,
11 in some way, the USDW.

12 If we are just getting new data, you
13 know, this month that tweaks it slightly, and then
14 next month it tweaks it the other way slightly, those
15 are things that we're hopeful are not major
16 modifications; and you know, of course, if we see no
17 no concern with those.

18 DR. AMPOMAH: Okay. Okay. Let's go to
19 slide number 8.

20 MS. WALLACE: And I'm sorry,
21 Commissioner, if you give us the subject when you get
22 there; our slides are numbered differently because of
23 course.

24 DR. AMPOMAH: Okay. So slide number 8
25 will be 19.15.43.9 E2.

1 MS. WALLACE: Got it.

2 MR. TUCKER: Commissioner Ampomah,
3 would it be helpful if I put the slides back up?

4 DR. AMPOMAH: Yeah, you can.

5 MR. TUCKER: Okay. Yeah.

6 DR. AMPOMAH: I thought we were all on
7 the same page, so sorry about that. So yeah, page
8 8 -- slide number 8. No, E, E.

9 MS. WACHTMAN: Under AoR?

10 DR. AMPOMAH: AOR agreement.

11 MS. ORTH: One more, I think. One --
12 one more up, I think.

13 MR. TUCKER: One more up?

14 DR. AMPOMAH: Yeah. Right there.

15 Thank you. Thanks.

16 Now, let me ask. So OCD is saying that
17 you have to more or less look at the reevaluation in
18 the first two years, and Oxy is proposing that it has
19 to be five years. And even you are proposing not to
20 exceed five years, so not necessarily five years. So
21 it means that it could be the two years; right? So
22 even if we utilize your language, the director still
23 has the discretion to say that it has to be two years;
24 right?

25 MS. WACHTMAN: [No audible response.]

1 DR. AMPOMAH: Okay. Now, let me ask,
2 what is the burden, you know, that would be on the
3 operator? Because you've already done the models for
4 your AoR, so what would be the additional burden on
5 the operator if you are just to incorporate the
6 monitoring information and then just rerun with your
7 models? What would be the burden on the operator?

8 MS. WACHTMAN: I can answer from my
9 experience in the Permian Basin in Texas that, again,
10 depending on the site specific characteristics, there
11 may not be much geophysical response within the first
12 two years depending on the quantity of CO2 that's
13 injected, the composition that's injected, the
14 permeability of that particular injection zone. So it
15 it might take long more than two years to really see
16 much of a change in the CO2.

17 DR. AMPOMAH: But what about pressure?

18 MS. WACHTMAN: You would use pressure
19 data as well. You may not necessarily need to
20 reevaluate or reconstruct your -- your AoR though
21 based on the pressure data that's been received. So I
22 think the -- the federal language looked at five
23 years, and that seemed to be a -- a reasonable time
24 frame because some of those shorter timeframes may not
25 yield results that would result in differences.

1 DR. AMPOMAH: Yeah. The imaging of the
2 plume did not come into my mind when the OCD witnesses
3 were here, but that's a good point. So hopefully you
4 will probably still follow up with OCD and see if
5 there's something that can be done. Because I -- I
6 believe that even if we take five years, the director
7 can still go for two years because you are saying not
8 to exceed. Okay.

9 Now, you said you wanted this one to
10 mirror the federal regulation which would be the five
11 years. Now, so assuming New Mexico get primacy, all
12 the wells, filed wells, all the -- will be transferred
13 to New Mexico. Now in the rule, I read somewhere that
14 the operator would have to submit their documents to
15 the division. Now, don't you believe that some of
16 these issues with regards to two years, five years
17 will be resolved during that process?

18 MS. WALLACE: I would hope so. There
19 would -- there would be obvious discussions with the
20 division about ongoing projects. Then obviously, the
21 division would need to be brought to speed on those
22 projects and where they were at.

23 DR. AMPOMAH: Yeah. And then -- but --
24 so based on the cross, I heard you said the already
25 permitted well will still be reporting -- will still

1 be looking at it in five years. Yeah, I heard that.

2 MS. WALLACE: Right. So let's -- if it
3 were already permitted with the -- the feds on a
4 five-year timeline, we're in year three. We would
5 still be on the five-year timeline. However, we would
6 still need to transfer those projects over to OCD and
7 bring them up to speed about what those projects were.
8 So then the question really becomes the language here;
9 is the formal reevaluation still at five years or --
10 or not?

11 DR. AMPOMAH: Okay. But definitely
12 that needs to be discussed with OCD?

13 MS. WALLACE: Correct.

14 DR. AMPOMAH: And based on your
15 experiences, even though you said you've not started
16 injection, but at least you do have the permit to
17 inject, was your project one of the projects from
18 Region 6 in Texas?

19 MS. WACHTMAN: So Texas is actually a
20 dual permit state. So we were working with both the
21 Region 6 and with the Railroad Commission of Texas,
22 and we obtained the Class VI permits first from Region
23 6 EPA and then from Railroad Commission of Texas. But
24 they happened, I wouldn't say exactly at the same
25 time, but we were working with both agencies at a

1 similar time frame.

2 DR. AMPOMAH: So can you at least
3 educate the Commission, the process, the transfer
4 process?

5 MS. WACHTMAN: Well, the Railroad
6 Commission of Texas had a separate approval and a
7 separate public notice that went out, and so we had a
8 public comment period that was executed with Region 6
9 EPA. It was followed by a public comment period with
10 the Railroad Commission of Texas. We had revisions
11 through both agencies.

12 Permits were awarded from Region 6 EPA,
13 and then were subsequently subsequently awarded
14 through the Texas Railroad Commission, Railroad
15 Commission of Texas. And then similarly for the
16 authorization to inject, it was -- both agencies were
17 involved in that process. So -- so we submitted
18 the -- the documents to both agencies and they were
19 both able to review them.

20 DR. AMPOMAH: So then you will say that
21 Texas process was more smooth because both agencies
22 were all working together?

23 MS. WACHTMAN: Well, Texas already had
24 Class VI rules in place, and they already believed
25 that they had permitting authority before they got

1 primacy.

2 DR. AMPOMAH: Okay.

3 MS. WACHTMAN: So this may be a little
4 bit of a different situation than what's here.

5 DR. AMPOMAH: Okay. That's
6 interesting.

7 MS. WACHTMAN: But I'll -- I'll leave
8 that up to my friends at the Texas Railroad Commission
9 to perhaps get some additional clarity on that.

10 DR. AMPOMAH: Okay. Yeah. And I just
11 want to clarify that the two years that OCD was
12 proposing was not at the time where the permit was
13 issued but at the start of injection. I just want to
14 clarify that because -- so if you go to -- let me let
15 me check.

16 So this one would be Ms. Wallace direct
17 testimony, item 15. And this one will be the two-year
18 automatic permit termination. So in there, I'm
19 looking at item number 15. So you said "Allowing a
20 period of only two years from the date of permit
21 issuance may not allow for enough time," so I just
22 want to clarify.

23 MS. WALLACE: Okay. So now I may need
24 to clarify, Commissioner. I'm looking at -- there is
25 definitely a provision around area of review

1 reevaluation that is two years after injection, and
2 then there's another period of time that has to do
3 with a permit expiring. So I definitely see the one
4 that says --

5 DR. AMPOMAH: Okay. I got you.

6 MS. WALLACE: Yep.

7 DR. AMPOMAH: I got you. I got you.
8 Thank you. I got you. Yeah. Let's go to 19.15.43.9H
9 right there. Okay. Maybe the next one, because I
10 think we've discussed this. No. So that would be
11 page 11 on the slide that I have. So let's go --
12 yeah, right there. Right there. Now, so you've
13 canceled "must" to "may." How does this change
14 protects the USDW?

15 MS. WALLACE: So this comes back to our
16 general premise, which is that we really want testing
17 to be site specific, project specific, and not
18 prescribed. I do understand the division's concern
19 around the stringency requirement. I can't answer
20 those questions. But we just, at Oxy, believe that
21 testing should not be defined because we think the
22 geology should define that.

23 DR. AMPOMAH: So let's go to the next
24 slide -- the next slide. Okay. Let's hold on, and
25 then let me read. So I'm reading from the rule

1 itself, and that would be on page -- on page 13 so I
2 flipped to the next page.

3 And I'm looking at 2D. 2D. I don't
4 think it's on the slide. I'm not sure. It's not on
5 the slide, but okay. Right there. So if you read
6 through 2D saying -- if we are on the same page --
7 "Any alternative methods that provides equivalent or
8 better information and that are required by or
9 approved by the director." So would this not one
10 that's respond to the concerns that you have that it
11 doesn't necessarily have to be fixed?

12 MS. WALLACE: So yes. I -- I love that
13 sentence. However, I do think in the sections above
14 where it does say "must," and it prescribes them,
15 this -- this D would be outside of that the director
16 can add to.

17 DR. AMPOMAH: So then let me ask.
18 So -- so are you reading it that the C is the one that
19 D is dependent on, or the whole section?

20 MS. WALLACE: I am reading this as --
21 because H1 says in the -- in the draft, in the
22 petition, "must," and then all the stuff that follows
23 after is required. And again, I'm not a lawyer, so --
24 and I get it, "ands" and "ors" and "musts" and "mays"
25 are -- are interesting, so. But that's how I read it.

1 DR. AMPOMAH: So if I also interpret
2 that, an alternative method could be suggested to the
3 director for all the above. Am I reading that wrongly
4 to you?

5 MS. WALLACE: I would have read it as I
6 have to do all those things above. And then if I have
7 something else I want to bring to the table, I can do
8 that as well. But some of those things above may --
9 if I get director approval, some of those things above
10 might be redundant or unnecessary but I'm required to
11 do them. That's how I read it. Does that make sense?

12 DR. AMPOMAH: Yeah. Then some
13 discussions with OCD will be really, really helpful
14 here. Because when they come to D and say, "Any
15 alternative methods," that provide equivalent or
16 better information.

17 So in my mind, all these logs are
18 providing some kind of information. So in my mind, I
19 though that when they say alternative methods, meaning
20 probably there is an advanced technology so I can
21 replace it. So some clarification there. However,
22 OCD is taking notes on this one.

23 MS. WALLACE: I certainly like your
24 interpretation. I -- I like that interpretation.
25 I -- I'd definitely be willing to talk to them about

1 that.

2 DR. AMPOMAH: Definitely. Now, there
3 has been a lot of discussions with regards to SP logs.
4 Now, you know, I like it when you said "or," but you
5 canceled the SP log. And now my question is, are you
6 making the caliber logs optional?

7 MS. WALLACE: By putting the word "or,"
8 yes. Unless it were somehow in discussions with the
9 director required.

10 DR. AMPOMAH: How about -- I mean, but
11 you know the -- the importance of the caliber log so
12 why would you say it's optional here? I mean, we just
13 want to know the -- the size of the hole.

14 MS. WACHTMAN: I think -- I think
15 caliber wasn't the concern here. I think it was
16 really the spontaneous potential.

17 DR. AMPOMAH: Exactly.

18 MS. WACHTMAN: Yeah.

19 DR. AMPOMAH: So I would prefer all SP
20 log so then that becomes an optional. And OCD was
21 going to look into that to ask the director with EPA
22 to see if it's possible.

23 MS. WACHTMAN: Right.

24 DR. AMPOMAH: But definitely not all
25 for the caliber logs. We agree to that.

1 MS. WACHTMAN: Pretty standard.

2 DR. AMPOMAH: Okay.

3 MS. WACHTMAN: Yes.

4 DR. AMPOMAH: Yeah. Pretty standard.

5 But that was surprising that you said all caliber
6 logs. Okay. Can we go to 19.15.43.9.K where we have
7 the periodic? Right there. So my question here is
8 how would you define periodic?

9 MS. WALLACE: I wouldn't between you
10 and I here. As part of the project -- you know, with
11 some frequency. And -- and I -- I don't generally
12 love words like this, but in this particular instance,
13 I do because these -- I'm guessing that these projects
14 are going to vary over time. They're going to vary
15 how much or how little they need to be monitored.

16 And I would like to have those
17 discussions on a project basis with the division and
18 allow operator or owner to present a frequency to the
19 division and a why, and then allow the division to
20 decide whether that's appropriate for each project.

21 DR. AMPOMAH: As we -- you know, as
22 we're talking about it, I'm thinking about there could
23 be a situation where you are getting the same
24 responses every quarter, the same response every
25 quarter. So then will you work with OCD to see if

1 that is the case? Could there be some exceptions with
2 regards to that?

3 MS. WALLACE: Well, and I think that's
4 why we like the term periodic, because let's -- let's
5 pretend that that happens. Let's say that we start a
6 project and we say, "Hey, we're going to do this" --
7 I'm going to make this up -- "monthly," and in the
8 early -- so that we get data and we understand what's
9 going on.

10 Then we start to see that that's not
11 useful and we expand it to quarterly. And then maybe
12 a year in, we see some response that we want to back
13 it back down to monthly. I -- I like for that
14 variable to be -- be defined by the project and by the
15 division.

16 DR. AMPOMAH: Yeah. I do like the
17 explanation behind this, but the word periodic more
18 like giving open-ended. I think that is why OCD was
19 using -- this one is one of the criteria to strengthen
20 the rule. But I also understand if you're getting the
21 same results every quarter, then it's not significant
22 changes. Should I continuously -- I mean, do they
23 even have the -- to continuously house all this data?
24 So this might need some discussion, you know, and I
25 hope OCD will look into that.

1 MS. WALLACE: I agree with you. And
2 I'd also say the -- the -- going the other way, what
3 if it needs to be done more frequently and there's a
4 prescriptive amount in there? I would like for it --
5 the discussion to happen and say, you know, can the --
6 can the OCD go backwards and say "I want monthly even
7 though I would've said quarterly"? I don't know.

8 DR. AMPOMAH: Yeah. That -- that --
9 I'm thinking about that, too. Yeah. I hope OCD will
10 look at it because I do understand why they want --
11 this is one of the provisions that was much easier for
12 them to really put it there to make this rule a little
13 bit stringent than that of EPA.

14 But something -- based on the
15 discussions that we've had, I think they have to look
16 into that. And hopefully there could be some
17 discussions and closing -- maybe there could be some
18 consensus there. Let's go to the next -- the next
19 slide. That would be 19.15.43.9.

20 So you -- you want -- can we go to the
21 next slide?

22 MR. TUCKER: Oh, next slide. Right
23 now?

24 DR. AMPOMAH: Yeah. Right there,
25 please.

1 You know, initially, I -- I really
2 liked the "in the impacted well," but as the
3 discussion was going on, let's say assuming you have
4 multiple wells within the same AoR. Now, let me ask;
5 at what point will "in the impacted well," not work?

6 MS. WALLACE: You know, I -- and I --
7 and I'll let Caroline answer this as well, but I think
8 in the cross, there was a point made that said, "Hey,
9 you have multiple wells and what if two of them are
10 having" -- I would define that as they are also
11 impacting. And so I believe we at Oxy would shut both
12 in; right? Pretend it's two wells.

13 But I'll let you ...

14 MS. WACHTMAN: Yes. Maybe a similar
15 but maybe slightly different take there, which is to
16 say that if you have multiple injection wells, they
17 may be operating at different rates and different
18 pressures, and so -- and they may be experiencing
19 different conditions in the reservoir.

20 Even if they're in the same AoR, they
21 could be experiencing different conditions if they
22 have different permeability, different fracture
23 pressure. So a condition that impacts one well may
24 not impact other wells, even if they're in the same
25 AoR. So you have a variety of monitoring data you're

1 using in each of those wells to evaluate the
2 mechanical integrity, and if you had any indicators
3 that mechanical integrity was compromised in any of
4 those wells, then -- then yes, that absolutely is a
5 reason to cease injection.

6 But if there isn't evidence that those
7 other wells have any loss of mechanical integrity,
8 then that could be a reason to continue operating in
9 those wells even if they were in the same injection
10 zone because they may be experiencing different
11 operational criteria or operational conditions.

12 DR. AMPOMAH: Did OCD comment on this
13 provision? Do you remember?

14 MS. WALLACE: Our specific item?

15 DR. AMPOMAH: Yeah. Yeah.

16 MS. WALLACE: I think there was
17 rebuttal that said that it just -- it wasn't necessary
18 to make that clarification, but I'll let them answer.

19 DR. AMPOMAH: Mr. Tremaine, can you
20 help me here?

21 MR. TREMAINE: I don't have the answer
22 to that offhand. I'd have to go back to our -- our
23 rebuttal testimony to verify.

24 DR. AMPOMAH: Okay.

25 MS. WALLACE: I think that I would

1 direct towards either Matt or Justin's rebuttal.

2 MS. WACHTMAN: -- to the impacted well,
3 whether you guys rebutted that.

4 DR. AMPOMAH: But I'll crosscheck that
5 because I do understand the reason behind that, and
6 hopefully we can all come to the same understanding.
7 Thank you. Yeah, so the second part, that is number
8 5, at least five years or three years, do you believe
9 that it really changes anything here in terms of the
10 protection of the USDW?

11 MS. WALLACE: Yes. This was purely to
12 track federal.

13 DR. AMPOMAH: Okay. Okay. Now, there
14 has been some discussions -- so this one will be a
15 general questions so I'm moving a little bit away from
16 the -- the rule for now. But there were some
17 discussions about number of monitoring wells that
18 would be required. You have the experience. So can
19 you help the Commission to understand, in a typical
20 project, how will Oxy determine the number of
21 monitoring wells that would be required?

22 MS. WACHTMAN: So I think it depends on
23 the kind of data that we're hoping to obtain from
24 those monitoring wells. And in the particular project
25 that I worked on in Ector County, at the time when we

1 were permitting that, EPA Region 6 had required to
2 have a monitor well in the maximum extent of the
3 pressure plume, the -- well, the CO2 plume, I guess,
4 and the pressure plume.

5 And so we had planned to put, and --
6 and did put a monitoring well inside of the AoR. I
7 think Region 6 has -- and I -- I know that Railroad
8 Commission of Texas has different guidance on how they
9 expect monitoring wells to be sited. And so I think
10 that would be up to the Commission to determine
11 whether they wanted to have wells in the AoR or not.
12 I think from our perspective, there wasn't a need to
13 have a well in the AoR because once CO2 reaches it, it
14 reaches it, and then it's not very useful after that
15 as a monitoring well.

16 Data that's more useful would be things
17 like geophysical data, pressure data at the well site,
18 things like that. There are some projects that have
19 shallower permeable zones, and so there might need to
20 be, depending on site specific geology, wells that are
21 targeting those shallower permeable zones in addition
22 to wells that are targeting a -- or I shouldn't say
23 targeting -- but perforated in a USDW.

24 And so I think it depends on the
25 characteristics of your project and that specific site

1 of whether you have shallow -- shallow permeable
2 zones, how many USDWs are -- there are and the depths
3 that they're located, and whether you're intending to
4 use direct geochemical indicators from the injection
5 zone as part of your monitoring plan.

6 DR. AMPOMAH: Thank you for that. Do
7 you believe that there's flexibility as to whether a
8 monitoring well has to go through the injection zone
9 in this rule that we are working on?

10 MS. WACHTMAN: Well, I -- I think my
11 testimony was specifically rebutting the request by --
12 for -- for before wells. So I -- I don't believe that
13 I can speak to what the rule said specifically. I
14 was -- my testimony was rebutting that particular
15 proposal.

16 DR. AMPOMAH: Testimony I do have a
17 problem with wells -- monitoring wells going through
18 the injection zone. And you -- you just pointed out,
19 once the CO2 was registered, how useful is that well?
20 Now, OCD are saying that that well is going to get --
21 help us get pressure measurements.

22 Now, let me ask, is there a way where
23 we drill but we do not necessarily penetrate through
24 the injection zone and still be able -- or any other
25 way that we can get pressure measurements to

1 substitute the actual penetration of the injection
2 zone with a monitoring well?

3 MS. WACHTMAN: To get pressure
4 measurements in the injection zone?

5 DR. AMPOMAH: Yes.

6 MS. WACHTMAN: Well, you're getting
7 those measurements from your Class VI injectors.

8 DR. AMPOMAH: Do you trust that?
9 Because that one -- would that be classified as the
10 operations of operation or more like it's a dynamic
11 type of measurement?

12 MS. WACHTMAN: Well, admittedly, it is
13 sensitive to operational conditions.

14 DR. AMPOMAH: So do you support
15 monitoring wells through injection zones?

16 MS. WACHTMAN: I would say it -- it
17 comes back to site specific characteristics. If
18 you -- if your project believes that you can obtain
19 useful information on pressure or geochemistry from
20 having wells penetrate your AoR, then -- then that
21 might be useful.

22 You could also have wells that are
23 sited outside of your AoR that are service wells, that
24 are monitoring wells that could be useful for
25 obtaining reservoir pressure but would not be located

1 inside the AoR.

2 DR. AMPOMAH: So do you believe that in
3 this rule -- at least we'll cross check and see -- but
4 there should be some flexibility as to how operators
5 can get that data with or without necessarily drilling
6 monitoring wells into the injections zone?

7 MS. WACHTMAN: If you're asking should
8 there be flexibility, then -- then yes. I -- I would
9 agree that we would like to see flexibility in how
10 pressure data is obtained.

11 DR. AMPOMAH: So there was a discussion
12 about the size of AoR. So you said that the ones that
13 you worked on, you're looking at about six to eight
14 square miles. Once you said that, I feel like
15 probably then -- was your AoR based on the plume size
16 or the pressure from?

17 MS. WACHTMAN: So the particular
18 project I was referencing in the Permian Basin, which
19 is Ector County, Texas, in that particular project,
20 we're also doing pressure management. So we have
21 brine withdrawal -- brine withdrawal wells that are
22 helping us to manage the size of that pressure plume.

23 DR. AMPOMAH: That was a trick right
24 there, you know, so yeah. That -- that -- I mean --

25 MS. WACHTMAN: It's not a trick --

1 DR. AMPOMAH: No, that is the -- that
2 is the key. That is the key point right there,
3 because you are using a strategy to really minimize
4 your AoR.

5 MS. WACHTMAN: Well, I think it's good
6 reservoir management. So as Oxy and other companies
7 that are accustomed to subsurface development are
8 going to use the tools at our disposal to effectively
9 manage the reservoir, and that is one tool.

10 DR. AMPOMAH: That's a good guidance
11 for OCD to at least use what you are saying as an
12 example. Do you see that as a typical practice in all
13 these UIC class experiments?

14 MS. WACHTMAN: I would say no. Most of
15 the other projects are not doing that. Most other
16 projects are -- are not managing pressure in that way.
17 But again, it depends on site specific characteristics
18 and permeability in that particular reservoir, how
19 much land you've got access to, a variety of things.

20 DR. AMPOMAH: And that's -- I'm really
21 taking this notice, and I appreciate you sharing that.
22 But let me ask. So in a typical basin where the same
23 zone that you are injecting your CO2 someone is
24 injecting water. I mean, is that going to work?

25 MS. WACHTMAN: It is a challenge. And

1 so for the Permian basin, clearly there is quite a bit
2 of brine injection. And so it -- in some cases, it
3 might make pressure management more important in
4 some -- in some of those basins -- or in some parts of
5 the basins than in others.

6 DR. AMPOMAH: Okay. I'm going to ask
7 you at least to share with us -- I mean, you've shared
8 very important experience from Oxy with us. I mean, I
9 hope that the transcript will be there, people can
10 also read through that. And then as OCD is working
11 through guidance, I mean, that pressure management
12 strategy, hopefully, to get into the guidance.

13 Aside what you've shared with us, let
14 me ask. So you've obtained the Class VI permit from
15 EPA and then also within Railroad Commission of Texas.
16 What lessons from the permits should New Mexico adapt,
17 except -- aside the one that you just shared with us?

18 MS. WACHTMAN: Gosh, there are lots
19 of -- I mean, I think there are lots of lessons I
20 could share. Are there specific -- specific items
21 you're curious about?

22 DR. AMPOMAH: I mean, the most
23 interesting one was the pressure management that you
24 touched on. What about the negotiations with regards
25 to sampling? Was the -- was there a discussion --

1 we're talking about a periodic; right? So was there
2 some discussions with EPA or Texas Railroad Commission
3 with regards to that?

4 MS. WACHTMAN: I think for that, what
5 we had proposed and what we have in our permit for
6 Ector County, is that we're kind of front loading the
7 testing and -- and -- of geochemical testing of the
8 USDW, so collecting a more frequent data in the
9 baseline period.

10 And then as we get into the injection
11 period, unless there are changes that would warrant
12 more frequent injection, reducing the frequency of
13 geochemical sampling. But if there were, for example,
14 changes in soil gas data, that might incentivize --
15 well, I shouldn't say incentivize -- but that might
16 require more frequent sampling of the USDW. Or if
17 there were anomalous pressure changes, that might
18 require more frequent sampling.

19 So -- so the base plan is to sample
20 more in the -- in the baseline, and then sample less
21 frequently as we go through the injection period
22 unless there are triggers which would warrant more
23 frequent evaluation.

24 DR. AMPOMAH: Then I guess Oxy doesn't
25 agree to the proposal that there has to be one full

1 year of soil measurement as a baseline?

2 MS. WACHTMAN: I don't think we
3 specifically rebutted that.

4 DR. AMPOMAH: You did not.

5 MS. WACHTMAN: But I think we -- you
6 know, in general, as we've said for some of our other
7 rebuttal testimony, it should be site-specific and on
8 the characteristics of the project.

9 DR. AMPOMAH: Now, so you followed EPA
10 guidelines and then let's say Railroad Commission's
11 guidelines and prepared your application, and you
12 submitted to them and you got the permit. So were
13 there any permit specific conditions that were beyond
14 the established rule as part of your permit?

15 MS. WACHTMAN: I believe for our
16 permit, when we received the permit to construct, we
17 were obligated to conduct corrective action on three
18 wells that were located within the AoR, and we
19 completed that corrective action prior to receiving
20 the authorization to inject.

21 DR. AMPOMAH: But there was nothing
22 more out of ordinary compared to the guidance, the
23 rules, and then the final permit?

24 MS. WACHTMAN: Well, if you're asking
25 was there a number of requests for additional

1 information, there were, yes, many requests for
2 additional information. It was a very lengthy
3 process. And so we received requests from both the
4 EPA and from the Railroad Commission to provide
5 additional information, collect additional data, and
6 report that back to them.

7 DR. AMPOMAH: So at that point, the
8 director was using his discretion to ask for more
9 information to make sure that the permit that they are
10 issuing is going to protect the USDW?

11 MS. CZOSKI: Yes.

12 DR. AMPOMAH: Thank you so much for
13 your time and your testimony and the practical
14 knowledge that you've shared today. Thank you.

15 MS. ORTH: Thank you, Commissioner
16 Ampomah.

17 Chair Chang, do you have questions?

18 MR. CHANG: No. I think everything's
19 been quite thoroughly covered. Thank you very much.

20 MS. ORTH: All right.

21 MR. CHANG: I think it's -- we're ready
22 to excuse the witnesses.

23 MS. ORTH: All righty.

24 So, Mr. Tucker, any reason not to
25 excuse the panel?

1 MR. TUCKER: No. Thank you very much.
2 I appreciate everyone accommodating the witness'
3 schedule today.

4 MS. ORTH: All right. Thank you very
5 much.

6 Let's see. So we're not going to
7 proceed in 25875, but the Chair had asked to have the
8 floor to discuss with commissioners another matter.

9 Go ahead, Mr. Chair.

10 MR. CHANG: Thank you. Thank you.

11 Yeah. I just wanted to bring up -- so
12 we're taking a pause. I'm talking about a different
13 matter, taking a pause from this particular case in
14 front of the commissioners just for organizational
15 purposes.

16 I wanted to turn quickly to a
17 organizational update about case number 24683. And
18 that would be -- Commissioner Bloom would be the one
19 sitting on that one for the State Land Office. In
20 that particular case, my understanding is that the
21 Western Environmental Law Center has moved for a new
22 hearing.

23 And given our timelines in the New
24 Mexico Administrative Code, the Commission has a time
25 limit to -- with which we need to decide how the

1 Commission wishes to proceed on that particular motion
2 by -- by our -- by my rough calculation., and I could
3 be wrong so don't quote me on this, but it appears
4 that we need to take a -- make a decision on whether
5 to take any action on that motion by August 7th.

6 It's also my understanding that there
7 might be another party that also may wish to move for
8 a rehearing, but they -- but so far, we only have one
9 motion in -- in that case for a rehearing, but there
10 may be a a second one coming from a different party.

11 And so I suggest that if the Commission
12 wants to preserve the ability to -- to debate or
13 deliberate on whether or not to take up the motions
14 and just whether to entertain the rehearings, I would
15 suggest that we may want to amend the agenda for this
16 hearing to -- then of course, we should check with
17 Commission Counsel to see if that's okay or whether
18 additional notice is needed.

19 But given the time frame here where
20 this must be considered by the Commission before --
21 by -- or at least by August 7th, it -- it seems to me
22 that it might be prudent to move to add the agenda
23 item to this current hearing, perhaps afternoon of
24 August 6th or -- or morning of August 7th, for the
25 Commission to consider case number -- any post-hearing

1 motions for case number 24683.

2 MR. SHANDLER: So, Mr. Chair -- amend
3 an agenda for an action item?

4 DR. AMPOMAH: Yeah. Mr. Chair, so can
5 we discuss a little bit about the timeline for the
6 current hearing that we are working on? Because I'm
7 not sure whether we'll be here or still on the same
8 case on the 6th. So can we discuss it a little bit to
9 see the timeline and fix that into that?

10 MR. CHANG: Well, we can certainly
11 discuss it, though there -- I think some of that
12 depends on how much time the Commission -- because I
13 think we have time limits on the parties so we have a
14 sense of how long the parties might take. But the
15 bench themselves, our commissioners themselves are
16 taking a while, so I think that might be up to the
17 commissioners' choice on how quick it might be.

18 DR. AMPOMAH: That's -- that's a direct
19 question to me. I understand that.

20 MS. ORTH: Very subtle. Okay.

21 Chair Chang, would you like me to
22 explore just a little bit what might be possible? And
23 then, you know, we can certainly work backwards from
24 anything the Commission would like to do. But I have
25 a question in particular of Mr. Tremaine first.

1 Mr. Tremaine, do I understand that
2 you're going to submit kind of your final proposed set
3 of rules after this hearing, or should the Commission
4 accept Exhibits 1, 2, and 3 as your final proposed?

5 MR. TREMAINE: Thank you, Madam Hearing
6 Officer. The multiple kind of technically open-ended
7 questions and proposals made by the commissioners has
8 left me with a lot of closing drafting to do. I
9 understand and absolutely respect those -- those
10 questions.

11 I think that we will be -- I can go
12 into a little more detail, but I think that there are
13 a couple things that have come up that we will be
14 considering and proposing. So we would suggest that
15 it would be appropriate to -- with -- and with the
16 caveat that we haven't heard from one of the witnesses
17 so that could change everything, but I -- I think that
18 we will see a final post-hearing redline along with
19 our closing, and we'll want to move to closing at a
20 reasonable and -- and practical rate. There have been
21 some other questions about party discussions, et
22 cetera.

23 I think we are already looking at going
24 through the various proposals and categorizing those
25 into stringency, legal basis, and -- and potential

1 changes, and I think we're going to be through that
2 pretty quickly. So an indirect answer to your
3 question, but I think we are -- we are planning to
4 move towards a final redline, which will probably
5 conform fairly close to our proposals but will
6 represent specific differences, and then wanting to go
7 to closing -- closing -- written closing arguments.
8 Did that answer your question?

9 MS. ORTH: Almost. Could you give me
10 just a range, like, you know, not mid-August, but late
11 August, early September, mid-September?

12 MR. TREMAINE: For closing arguments?

13 MS. ORTH: Yeah.

14 MR. TREMAINE: It depends on what day
15 we end and when we expect the transcripts. But where
16 we are right now, I would probably be asking --
17 proposing a closing argument deadline in the first
18 week of September some time.

19 MS. ORTH: All right.

20 So, Mr. Chair, I -- I just wanted to
21 elicit that, and I will certainly ask the other
22 parties for input on that as well. But I think
23 Mr. Tremaine probably has the heaviest lift at this
24 point to provide some legal briefing on -- on some of
25 the questions the commissioners asked. So knowing --

1 having heard that answer, I'll -- I'll step back and
2 perhaps the Commission can review their calendar after
3 that.

4 And -- and I don't -- I stand by my
5 offer to compile the parties' final proposals if that
6 would be helpful to the Commission. I wouldn't --
7 wouldn't -- it would be a simple compilation on my
8 part.

9 MR. CHANG: Okay. Thank you. And
10 that's actually -- that's a -- that's a whole
11 different -- I'm trying to talk about case number
12 24683 here. So case number 24683, that would be about
13 the time limit of August 7th; right?

14 So my -- so now the question is,
15 regardless of what may happen in a different case --
16 in the -- in the other case, on the -- on the Class VI
17 case in September or October, I need to know what the
18 Commission wishes to do or can do when it comes to
19 case number 24683 and the motions that are -- that we
20 need to take action -- or we need to decide -- make a
21 decision on whether to take action on by August 7th.

22 So if Commission Counsel is -- is
23 not -- it sounds like Commission Counsel had concerns
24 about adding that as an agenda item to this particular
25 meeting. So then I guess the question is do we need

1 to take a pause, at least half an hour, one-hour pause
2 from this hearing on August 6th or August 7th and set
3 a special meeting for August 6th or August 7th for
4 case number 24683? Would that be satisfactory to
5 Commission Counsel?

6 MR. SHANDLER: Mr. Chair, you have to
7 set a special meeting for that separate item if you
8 want to take a vote on it.

9 MR. CHANG: Okay. So to set it -- so
10 in that case, we would have to set a special meeting
11 that at least overlaps with this one; right? So
12 that's why I'm conferring with Commission to see if
13 that would be amenable to the rest of my
14 commissioners.

15 Or at least for this particular matter,
16 for 24683, Commissioner Ampomah, whether that would be
17 amenable to Commissioner Ampomah to set a special for
18 about half an hour. I can't imagine we need more than
19 half an hour just -- just to decide whether or not to
20 take up a motion for rehearing. But I do need to
21 somehow get it onto our agenda within that timeline if
22 the commission wants to at least have the option of
23 entertaining whether or not to take it up.

24 DR. AMPOMAH: Mr. Chair, so if
25 possible, I would suggest probably August 4th because

1 I believe that maybe the evidentiary hearing for this
2 particular case maybe will end on Monday. I cannot --
3 I can promise you that I'll end on Monday if it is
4 dependent on me.

5 MR. CHANG: Thank you. My
6 understanding is -- and -- and my understanding from
7 Commission Clerk -- and of course, this is all
8 speculative so take it for what it's worth -- but my
9 understanding is that IPANM intends to file a motion
10 for rehearing on August 5th.

11 So if we hold a special on August 4th
12 and then receive yet another rehearing request on the
13 5th, then we would have to hold it in at another
14 special meeting. So my suggestion is to hold it on
15 the 6th or the -- or the 7th so that we can consider,
16 hopefully, if -- if that's the way it works out, both
17 requests for rehearing at the same time.

18 DR. AMPOMAH: And will it be --

19 MR. CHANG: Go ahead.

20 DR. AMPOMAH: Will it be possible just
21 in case I need to participate remotely?

22 MR. CHANG: I think that's just fine.
23 I don't think there's any requirement. Yeah. I --
24 I -- Commission Counsel can advise differently if I'm
25 mistaken, but I don't think there's any requirement

1 that we -- that -- that all of us need to be in person
2 or anything like that. So as far as I understand,
3 it's totally fine if you would like to participate
4 remotely for a very -- what should be, hopefully, if
5 all goes right, a less than five-minute special
6 meeting.

7 DR. AMPOMAH: Then I reserve that
8 flexibility. Thank you.

9 MR. CHANG: Commission Counsel, you
10 want to weigh in there on -- on if I was mistaken
11 about being remote, or at least some of us?

12 MR. SHANDLER: So, Mr. Chair, the legal
13 standard is if it's difficult to attend then you can
14 attend remote.

15 DR. AMPOMAH: How -- how do you
16 quantify as difficult to attend?

17 MR. SHANDLER: I'm just going to leave
18 it like that.

19 MS. ORTH: Also, Mr. Shandler, is there
20 a three-day minimum for notice of a special meeting?
21 I've forgotten.

22 MR. SHANDLER: Mr. Chair and Hearing
23 Officer, yes, it's a 72-hour notice requirement that
24 the clerk would have to comply with.

25 MR. CHANG: And my understanding is if

1 we noticed it for the afternoon of August 6th, or
2 maybe for early morning -- or maybe sometime in the
3 morning of August 7th, that would comply with a
4 72-hour notice period; right?

5 MR. SHANDLER: Yes.

6 MR. CHANG: Okay. In that case,
7 Commissioner Ampomah, would you be -- would you be so
8 kind as to move to ask our commission clerk to set a
9 special meeting?

10 DR. AMPOMAH: Mr. Chair, I do move that
11 a special meeting should be scheduled for the 6th of
12 August.

13 MR. CHANG: Thank you very much. I
14 will second that motion. And I will take -- unless
15 there's additional discussion on that for scheduling
16 purposes, I will take a vote.

17 Is there any votes against? Any
18 opposition?

19 DR. AMPOMAH: No.

20 MR. CHANG: Hearing no -- hearing no
21 opposition. And by -- by "No," Commissioner, you mean
22 no -- no opposition; right? Not that you're voting no
23 on the motion?

24 DR. AMPOMAH: Yes, no opposition.

25 MR. CHANG: Thank you.

1 Without opposition, thank you so much,
2 we'll ask the commission clerk to schedule the
3 special. Thank you very much. That's all I have.

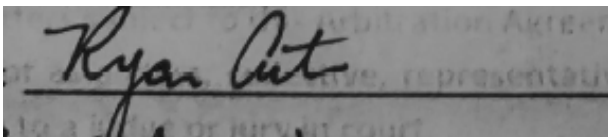
4 MS. ORTH: All right.

5 Any reason not to adjourn for the day
6 and pick up 9 a.m. Monday morning with public comment
7 and then return to hear from Dr. Harvey? No? All
8 right. Have a good weekend.

9 (Whereupon, at 2:36 p.m., the
10 proceeding was concluded.)
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CERTIFICATE

I, RYAN AUTEN, the officer before whom the foregoing proceedings were taken, do hereby certify that any witness(es) in the foregoing proceedings, prior to testifying, were duly sworn; that the proceedings were recorded by me and thereafter reduced to typewriting by a qualified transcriptionist; that said digital audio recording of said proceedings are a true and accurate record to the best of my knowledge, skills, and ability; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this was taken; and, further, that I am not a relative or employee of any counsel or attorney employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

A handwritten signature in black ink, reading "Ryan Auten", is written over a horizontal line. The background of the signature area is a light gray, textured surface.

RYAN AUTEN

Notary Public in and for the
State of New Mexico

CERTIFICATE OF TRANSCRIBER

I, AUSTIN FAULKNER, do hereby certify that this transcript was prepared from the digital audio recording of the foregoing proceeding, that said transcript is a true and accurate record of the proceedings to the best of my knowledge, skills, and ability; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this was taken; and, further, that I am not a relative or employee of any counsel or attorney employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

A handwritten signature in black ink, appearing to read "Austin Faulkner". The signature is written in a cursive, flowing style.

AUSTIN FAULKNER

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New Mexico Rules of Civil Procedure for the
District Courts

Article 5, Rule 1-030

(e) Review by Witness; Changes; Signing.

If requested by the deponent or a party before completion of the deposition, the deponent shall have thirty (30) days after being notified by the officer that the transcript or recording is available in which to review the transcript or recording and, if there are changes in form or substance, to sign a statement reciting such changes and the reasons given by the deponent for making them. The officer shall indicate in the certificate prescribed by Subparagraph (1) of Paragraph F of this rule whether any review was requested and, if so, shall append any changes made by the deponent during the period allowed.

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THE ABOVE RULES ARE CURRENT AS OF APRIL 1,
2019. PLEASE REFER TO THE APPLICABLE STATE RULES
OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

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