

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

CASE NO. 15617

IN THE MATTER OF APPLICATION
OF C.K. DISPOSAL, LLC, FOR PERMIT
TO CONSTRUCT AND OPERATE A
COMMERCIAL SURFACE WASTE
MANAGEMENT FACILITY, PERMIT
NO. NM1-16

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BEFORE: DAVID CATANACH, CHAIRMAN
PATRICK PADILLA, COMMISSIONER
DR. ROBERT BALCH, COMMISSION

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1 CHAIRMAN CATANACH: I call the hearing to
2 order this morning. This is day two of Case
3 Number 15617.

4 We appreciate everybody being here on time
5 and early this morning, so we will go ahead and get
6 started. At this time we will turn it back over to
7 Mr. Woodward.

8 MR. WOODWARD: Mr. McGuffey is going to
9 handle the first witness this morning.

10 MR. BOHNHOFF: Mr. Catanach, Mr. Brooks is
11 not here yet.

12 CHAIRMAN CATANACH: Good morning,
13 Mr. Brooks.

14 MR. BROOKS: Good morning, Mr. Chairman.
15 I apologize for being late.

16 CHAIRMAN CATANACH: I think we are ready
17 to get started, so if there is nothing else, we will
18 turn it over to Mr. Woodward.

19 MR. WOODWARD: Thank you, Mr. Chairman.
20 Mr. McGuffey will be handling our first witness this
21 morning.

22 MR. MCGUFFEY: The Applicant calls Robert
23 Holder.

24 THE WITNESS: It is Robert Holly Holder.
25 H-O-L-D-E-R. Middle name, H-O-L-L-Y.

1 (Whereupon, the witness was previously
2 sworn.)

3 ROBERT HOLDER,
4 after having been first duly sworn under oath,
5 was questioned and testified as follows:

6 DIRECT EXAMINATION

7 BY MR. MCGUFFEY:

8 Q. Mr. Holder, if you would, would you please
9 turn to Applicant's Exhibit A, which is located in
10 the smallest binder.

11 A. (Witness complies.)

12 Q. Do you recognize this document?

13 A. Yes. That is my resume.

14 Q. And did you prepare this information?

15 A. Yes, I did.

16 Q. And is this a true and correct copy
17 reflecting your education experience?

18 A. Yes, it is.

19 MR. MCGUFFEY: I offer for admission
20 Applicant's Exhibit A.

21 CHAIRMAN CATANACH: Any objection?

22 MR. BOHNHOFF: No objection.

23 CHAIRMAN CATANACH: Exhibit A will be
24 admitted.

25 (Applicant's Exhibit A admitted.)

1 Q (By Mr. McGuffey) Mr. Holder, can you
2 discuss your education, please.

3 A. Yes. I have a Bachelor of Science in
4 civil engineering from Texas Tech University in
5 1979. After I graduated I moved to Houston, Texas.
6 I worked for an oil company down there for five
7 years, then I went to work for an engineering
8 consultant and moved back to Lubbock in 1989, and
9 shortly thereafter I was assigned my first municipal
10 southwest landfill project and have been working on
11 solid waste facilities ever since.

12 Q. And are you a licensed professional
13 engineer?

14 A. Yes. I am licensed in Texas and
15 New Mexico.

16 Q. So in your experience with landfills, how
17 many landfills would you say you have worked on,
18 ballpark?

19 A. Ballpark number probably 60. If you look
20 at the Panhandle of Texas, and start at Amarillo and
21 go down to Midland/Odessa, I work at all the major
22 facilities there and virtually all the smaller
23 facilities. And then swinging around the west to
24 El Paso, we work at both the City of El Paso
25 landfills.

1 Q. And are these mainly municipal solid waste
2 landfills?

3 A. These are municipal solid waste landfills,
4 yes.

5 Q. Are you familiar with the regulations of
6 the OCD Part 36?

7 A. Yes. That was one of the first steps in
8 our process was to look at the regulations, see what
9 they required. Really, the regulations were very
10 familiar. They fall back to the genealogy of all
11 regulations, you know, it goes all the way back to
12 RCRA, Resource Conservation Recovery Act, and
13 Subtitle D and Subtitle C that were issued in the
14 early '90s. And they govern the way that the
15 landfills are lined and capped.

16 Q. So what was your role in the development
17 of this application?

18 A. Well, I was the contact with the client
19 and I had members of my team actually do the actual
20 work. I collaborated with them. We discussed
21 design aspects, how we would approach the project.
22 We just -- just general conversations that we had
23 with any project.

24 Q. And were you the principal in charge for
25 this project?

1 A. Yes, I was the principal in charge of the
2 firm. And my responsibility to that was to make
3 sure that the design team had the resources that
4 they needed, that the CAD operators were available,
5 that they got support from clerical when needed and
6 so forth and so on.

7 Q. Some team management?

8 A. Basically, yes.

9 Q. Did you also perform some specific
10 engineering work on this application?

11 A. As we got into it, I responded to
12 questions that the reviewer had, and the way it was
13 working out, we submitted some preliminary
14 calculations to him to make sure that is what he was
15 wanted to see. We had never worked with him before.
16 It is not unusual for us in the course of a permit
17 project to get a request or a question from a
18 reviewer, it happens all the time, and we typically
19 respond to them as we would to any client. You
20 know, we want them to be comfortable with what they
21 are reviewing and so he had a question on some
22 calculations he wanted us to provide, they weren't
23 specifically called out in the regs, and that is why
24 they were not in there.

25 But they were pretty standard calculations

1 that you require on any landfill.

2 Q. Would you call them design calculations?

3 A. I would call them, yeah, design
4 calculations. It was more looking at making sure
5 that the materials that are put in the landfill to
6 protect it will withstand the loads and overall
7 operational life of the facility.

8 Q. And was there also some clarification for
9 the HELP model?

10 A. Yes. That came a little bit later but
11 there was -- basically we had a typo in our written
12 part where we called out the depth of the
13 evaporation layer in the HELP model of 28 inches, it
14 was actually 18 inches which is more conservative.
15 And so we just -- the model was run at 18. All we
16 had to do was change the 28 to 18 in the writeup to
17 where they matched. And then we had just a print
18 shop error where they submitted two runs, two
19 identical runs and he said, hey, your Attachment D
20 is the same as C. And yeah, that is right, so we
21 had to rerun Attachment D and submit it in there to
22 correct it, but it had already been run, there was
23 no change. We just had to provide it to him.

24 Q. And you sealed both of those?

25 A. I sealed both of them because the

1 production was being done in Lubbock and so Nick is
2 in El Paso. We -- we learned years ago how to work
3 across our company lines, and so with technology as
4 it is today, we do a lot of things on our network
5 system and we we work closely, we collaborate
6 through web sharing. I am not good at it but our
7 younger engineers are. And they can pull up
8 information on the computer and they can look at it
9 and talk and they can point to things and say, what
10 about here, and they can work those issues out. So,
11 that actual production work was being done in
12 Lubbock and it was a timing thing, we wanted to get
13 that down to Dr. Richardson as quickly as possible,
14 so I took the responsibility and sealed those
15 calculations and the HELP model.

16 Q. Okay. Well, it sounds like you summarized
17 what happened here and I am just going to go
18 through. I am going to briefly go through a few
19 exhibits to demonstrate what you were just
20 explaining.

21 A. Okay.

22 Q. So first if you could just turn to Tab H
23 in that same small binder, please. Do you recognize
24 this document?

25 A. Yes, I do.

1 Q. Could you identify it for the record,
2 please?

3 A. That is a letter that Dr. Richardson sent
4 to Mr. Griswold saying that he has the permit, he
5 was looking through it and he wanted some additional
6 calculations. His second line -- he and I had
7 similar backgrounds. Given my experience with
8 review of municipal solid waste landfill permit
9 applications as a consultant, you know, he said, you
10 know, this was his first surface waste landfill
11 disposal to review, so he wanted these calculations,
12 which he requires for municipal solid waste
13 landfills -- again, even though these were not
14 specifically called out in the rules -- and asked
15 that we provide those in March, and we did.

16 Q. And just for me, are municipal solid waste
17 landfills more common than oil and gas waste
18 landfills?

19 A. Oh, yes, much more.

20 Q. So was it surprising for him to -- did it,
21 even though it wasn't required by the regulations,
22 were you okay with providing these calculations?

23 A. Again, I -- yes. I have no problem
24 working with a reviewer and if they need some
25 additional information to facilitate their review,

1 make them more comfortable with the review, I want
2 to provide it to them.

3 Q. And you -- you have worked on a lot of
4 landfill applications, even initial applications,
5 correct?

6 A. Oh, yes.

7 Q. And is it common for permit reviewers to
8 have questions and request additional information
9 from an Applicant, request clarification, is that
10 common?

11 A. It is very common. It is common practice.

12 Q. Has it happened in every application you
13 have ever been involved in?

14 A. I would say every application I have been
15 involved in.

16 MR. MCGUFFEY: The Applicant offers
17 Applicant's Exhibit H.

18 CHAIRMAN CATANACH: Any objection?

19 MR. BOHNHOFF: No objection.

20 CHAIRMAN CATANACH: Exhibit H will be
21 admitted.

22 (Applicant's Exhibit H admitted.)

23 Q (By Mr. McGuffey) So after receiving the
24 request for these calculations did you discuss their
25 request with Mr. Richardson?

1 A. Uh-huh.

2 Q. And did you provide those calculations to
3 him?

4 A. Yes, we did. We -- when I talked to him
5 earlier, I said I want to send you kind of a first
6 blush and make sure we are on the same page.

7 Again, since I've never worked with
8 Dr. Richardson, you learn over the course of time
9 when you have worked with the same reviewer, you
10 kind of know what they look for. And they all have
11 different things that they are always looking for in
12 a permit application. So I wanted to be sure that
13 he and I were seeing off the same page. So we
14 submitted a preliminary document to him a few days
15 later after this and we talked. He said, yeah, that
16 is what I want. He said, I do want to see it.
17 Because we send hand calculations and he said I want
18 to see these dressed up in a formal document that we
19 will add to the permit.

20 Q. Okay. So if you could turn to Exhibit I,
21 the next designated exhibit for the Applicant.

22 A. Yes.

23 Q. Is this a copy of that the hand
24 calculation memo that you provided?

25 A. Yes. This is the memo that transmitted

1 those calculations and they are attached to that at
2 the back.

3 Q. And does this appear to be an accurate
4 copy of that memo?

5 A. Yes. It is an exact copy.

6 MR. MCGUFFEY: The Applicant offers
7 Exhibit I.

8 MR. BOHNHOFF: No objection.

9 MR. BROOKS: No objection.

10 CHAIRMAN CATANACH: Exhibit I will be
11 admitted.

12 (Applicant's Exhibit I admitted.)

13 Q (By Mr. McGuffey) Now you also mentioned a
14 more formal submittal of these calculations?

15 A. Yes.

16 Q. Do you know where that appears?

17 A. That is actually included in the permit.

18 Q. The permit application?

19 A. Yes, in Volume 2. It is the very last
20 attachment. And that is the final version of the
21 calculations as typed up.

22 Q. You sealed Attachment N.

23 A. I sealed Attachment N, yes. We sent this
24 back to him on the same day that we sent in the --
25 the typographical corrections and the run on the

1 HELP model.

2 Q. Now, you are familiar with these types of
3 calculations, correct?

4 A. Yes.

5 Q. Are they common to municipal solid waste
6 applications?

7 A. Admittedly there was only one that in all
8 my years I had never done, and that was the minimum
9 thickness of the liner based on projected
10 overburden. But it is a -- it is really just a
11 stress calculation and so we were able to provide
12 that.

13 Other sites that I've worked at, that
14 is -- they default back to the Subtitle D reg which
15 says 60 mils. They don't require you to verify that
16 thickness is sufficient. Dr. Richardson did.
17 Frankly, I am going to started doing that in all my
18 other applications because I think it is a great
19 idea.

20 Q. So were these calculations belt and
21 suspenders approach?

22 A. Just like Justin Wilson.

23 Q. And what did you find as a result of the
24 calculations?

25 A. The calculations really showed that

1 everything in the permit, all the materials that
2 were specified were below levels of any stress and
3 were sufficient to withstand the loads that we
4 imparted on it during operation and once it is
5 closed out in the post-closure care.

6 Q. Did it confirm the robustness of the
7 application and design?

8 A. Yes, it did.

9 Q. And was anything in the application, as a
10 result of these calculations, changed or revised?

11 A. No. Nothing was changed in the design.
12 It was just -- again, just as you can read, there
13 was a letter from Dr. Richardson. He backed it all
14 up and said a lot of the substance we made were very
15 conservative and the design was good.

16 Q. Thank you.

17 Could you now turn to Application
18 Attachment E, which I believe is in Volume 1 of
19 Exhibit AA for the Applicant.

20 A. (Witness complies.)

21 Q. Did you seal Attachment E?

22 A. Yes. When -- like I said, when they came
23 in, when he asked us to make those two typographical
24 calculations we were finishing up those other
25 calculations and again, the production was being

1 done five steps out of my office. It made no sense
2 to run that back through to Nick in El Paso when I
3 was very familiar with this, anyway, so I sealed it
4 and we sent it out to try to expedite
5 Dr. Richardson's review.

6 Q. You testified previously that the
7 evaporative depth was -- the typo was that it was --

8 A. Yeah, it was.

9 Q. -- supposed to read 18 but it read 28?

10 A. If you look at the very beginning under
11 the landfill CAD design on Page 4 in Section 2.2
12 down towards the bottom. In the first sentence
13 there the vegetation for the final cover model is a
14 quote, "poor stand of grass, therefore the
15 evaporative depth zone was set to 18 inches and the
16 maximum leaf area was set to 1.2." We had 28
17 instead of 18.

18 Q. And this is on Page 4 of Attachment E and
19 this is in Section 2.2 on that page?

20 A. It also shows up on the next page in
21 Section 2.4.

22 Q. Then you also testified that Appendix C
23 was inadvertently repeated in Appendix D and there
24 was print error, print or assembly, I guess?

25 A. Yeah. He copied what was in Attachment C

1 or Appendix C, I'm sorry, twice, and inserted it as
2 Appendix C and as Appendix D inadvertently.

3 Q. And that was corrected also?

4 A. And that was corrected, yes.

5 Dr. Richardson pointed that out and said, "Send us
6 the correct one for D," and we did.

7 Q. So discussing the HELP model generally,
8 can you explain what help modeling is?

9 A. Yeah. It is a -- well, it is an older
10 model. It is an EPA model that was developed in the
11 late '80s, I believe, it is the HELP is an acronym
12 for Hydrologic Evaluation of Landfill Performance.

13 And what you are doing is you're modeling
14 the liner and the final cover system to determine if
15 you're creating a bathtub effect in the landfill,
16 meaning that more water is coming in than you can
17 remove out and that you are filling the landfill up
18 with liquid.

19 And so when we did the runs, you actually
20 model every single layer that is in the final cover
21 and every layer that is in the lining system. And
22 the model looks at the rainfall, in this case we
23 picked a weather station that -- the closest to it
24 was in Roswell, and then it synthetically generates
25 rainfall data for the location that you are at, in

1 this case Eunice, and then it calculates that in a
2 steady state mode, meaning that everything is kind
3 of already filled to fill capacity and it calculates
4 how much liquid could actually be stacked on top of
5 the liner. That is what they are looking for. That
6 is what Dr. Richardson wanted to see is are we
7 stacking liquid on top of the liner. The rules
8 allow up to 12 inches of liquid on top of your
9 liner.

10 And in this case we ran what we call the
11 prescriptive liner and prescriptive cover, which are
12 the covers that are included in the regs. They have
13 a recommendation of what it should be as an minimum.
14 Now that is the prescriptive and then we ran our
15 performance based cover and liner system and
16 compared the two.

17 And if I remember right the prescriptive
18 layer, you ended up having a little over
19 seven inches of liquid stacked on top of the liner,
20 but with our performance based cover system we had
21 not even -- I mean, it is like a thirty-second of
22 water on top.

23 Q. Of one inch?

24 A. No, one thirty-second of an inch, yeah.
25 The reason is, is with a dry area we put a

1 geomembrane at the very top. That is where most of
2 the water could have come through, if it was, and we
3 put a geomembrane, like a big umbrella up there that
4 was shedding off the water. And then as Nick even
5 alluded to yesterday it shed off and went off to the
6 outside, so that water never, ever permeated into
7 the waste mass, it was cleared out.

8 Q. So would that indicate that the
9 designed -- your designed cover and liner systems
10 are more protective than the prescriptive systems?

11 A. Yes.

12 Q. And making that comparison for that design
13 is contemplated with use of the HELP model in
14 New Mexico Regulations Part 36?

15 A. That is correct. It specifically says
16 that you can use a -- the HELP model to determine a
17 different type of cover or liner system.

18 Q. And was this information reviewed and
19 accepted through the tentative decision by the OCD?

20 A. Yes.

21 Q. Yesterday there was a little bit of
22 testimony about road maintenance and whether
23 materials could be on the roads for any period of
24 time. In your experience working with these
25 facilities using best management practices, what

1 happens if -- in the event that material
2 inadvertently would fall out of a truck or get onto
3 the road?

4 A. Well, taking one step back, as you
5 mentioned the best management practices, you know,
6 we are on Step 1 of several steps here. And one of
7 the other steps would be a storm water pollution
8 prevention plan, SWPPP, as we call it, and in that
9 it will outline what the operator would have to do.
10 And so as part of those best management practices,
11 yes, there would be detailed explanations of what
12 the site operator would do on a daily basis.
13 Normally they inspect those roads every day and make
14 sure, because, trucks, you know, that come on the
15 site or leaving the site, they need to be inspected.
16 Usually it is required that those drivers inspect
17 those trucks, too, before they leave. And that is
18 very common to see a landfill where the truck
19 drivers are off to the side and they are over there
20 with a sledgehammer hitting the tires and hitting
21 the underside to try to knock mud off before they
22 leave the site. That is a common practice. I see
23 that all the time in landfills, and this one would
24 be no exception to that.

25 Q. Is the best management practices of

1 keeping everything clean kind of analogous to

2 keeping your home clean?

3 A. Yeah, except it is probably -- you have
4 got normally a State inspector that comes through
5 periodically that would look at the site and so they
6 are going to be looking for those things. And if
7 the site operator is not keeping his house clean, he
8 is going to get written up by the State.

9 Q. So there is another level of assurance
10 there?

11 A. Yes.

12 Q. Now, as the principal in charge of this
13 application, have you -- and as an expert in
14 landfill issues, have you developed an opinion about
15 this application?

16 A. I think the application as it stands is
17 sound. It meets engineering practices and it meets
18 Part 36 rules. And in a lot of cases, according to
19 even Dr. Richardson's letter, exceeds some of the
20 rules that he checked.

21 MR. MCGUFFEY: Thank you. I pass the
22 witness.

23 CHAIRMAN CATANACH: Mr. Brooks?

24 MR. BROOKS: No questions.

25 CHAIRMAN CATANACH: Mr. Bohnhoff.

1 MR. BOHNHOFF: Thank you, Mr. Chairman.

2 CROSS-EXAMINATION

3 BY MR. BOHNHOFF:

4 Q. Mr. Holder --

5 A. Yes, sir.

6 Q. -- turn to your resume. It is in the
7 smaller notebook.

8 I believe it is Exhibit A. I wrote down a
9 note about your testimony at the beginning of your
10 examination that you have been working on solid
11 waste landfills since 1989?

12 A. Uh-huh.

13 Q. And you have done about 60 of them?

14 A. Sixty sites.

15 Q. Sixty sites, okay. Have you ever been
16 involved in the design of an oilfield waste
17 disposal?

18 A. No, this is the first. These are
19 relatively new in the world with solid waste
20 management.

21 Q. You described that you have worked on a
22 number of sites in West Texas wrapping around to El
23 Paso?

24 A. Yes, sir.

25 Q. Have you ever performed any work on a

1 solid waste landfill in New Mexico?

2 A. No. The closest is Andrews and Levelland,
3 which is -- one case is 40 miles from the state line
4 and one is about 25, maybe 30. I would say this
5 site is typical for some of the sites that I work at
6 in West Texas the same type of soil, the same type
7 of weather. It is really -- you know, our backyard
8 is that whole southern region of Texas and
9 Southeastern New Mexico.

10 Q. Being from Lubbock you consider New Mexico
11 part of your backyard?

12 A. Well, yeah. I mean, it is -- I have
13 family in Lubbock, you know, so I grew up going over
14 there all the time.

15 Q. I got the sense that you were,
16 notwithstanding the fact that Mr. Ybarra carried the
17 labor on the actual work, you were the lead engineer
18 on this project?

19 A. No, Nick was the lead. I was, again, the
20 principal in charge. He was responsible for all of
21 the permits. I was, as that, giving him the
22 resources to get the job done and then I stepped in
23 on two occasions to try to facilitate him and help
24 him out because, again, the production work was
25 being done in Lubbock.

1 Q. As principal in charge, would it be
2 correct that you did not address any questions about
3 air quality impacts that this site would have other
4 than indirectly through other members of your team
5 addressing the hydrogen sulfide modeling in the fall
6 of last year?

7 A. That's correct.

8 Q. And would it also be correct that you and
9 your firm didn't address questions related to
10 traffic safety at the intersection of C.K.'s
11 driveway and Highway 176?

12 A. No. And, again, that was not called out
13 for in the rules to do a full-blown traffic study.
14 Again, that is another one of those steps that will
15 have to be taken before the facility is allowed to
16 to go into operation.

17 Q. So your basic approach to what had to be
18 or should be in the application is looking through
19 all of the specific detail requirements set out in
20 19.15.36 NMAC and you view that as the scope of what
21 you had to address in the application?

22 A. That is correct. Other permits I have
23 worked in the past, they specifically called out
24 that, but they did not in these regs. And those
25 other sites generally have traffic engineers on

1 staff to review those.

2 Q. In discussing the HELP model with
3 Mr. McGuffey, if I understood you correctly what you
4 are saying is that the geomembrane at the top of the
5 landfill waste mass will shed storm water and it
6 will drain off to the side of the landfill?

7 A. Uh-huh.

8 Q. Where does that storm water go once it
9 drains -- drains to the side of the landfill?

10 A. I believe that was addressed yesterday.
11 It goes into the perimeter channels and it goes to
12 those detention basins. I believe that is what was
13 said yesterday.

14 Q. And you addressed at the end of your
15 testimony the issue of waste material being on the
16 roads. Maybe you can't say because this is the
17 first oilfield waste disposal facility you have
18 worked on, but do you know one way or the other
19 whether it is common in a facility like this for
20 tanker trucks that are coming in with waste liquid
21 to end up tracking mud and oil on the roads within a
22 facility?

23 A. If they are coming off the highway, they
24 have driven probably at that point anywhere from ten
25 to 25, 30 miles. And they should not have left the

1 site where they picked that waste up without first
2 inspecting their truck, and making sure that they
3 are not going to deposit that waste right outside of
4 the well site where they picked it up. So I would
5 not anticipate any of those trucks having anything
6 when they turn into the site. Once they turn into
7 the site the roads were -- are all weather roads,
8 and so the only opportunity they would have to pick
9 up is when they come onto the work face and drive
10 off. And, again, they would be required before they
11 leave that site to inspect their vehicles to make
12 sure there is no mud or anything that has been
13 picked up as they are driving on top of the work
14 face.

15 Q. You don't have any experience, I take it,
16 with the sites so you really don't know the extent
17 to which it is typical for tanker trucks when they
18 unload their liquid for some of that liquid to be
19 spilled where their tires are?

20 A. You mean when they are driving?

21 Q. Well, they are unloading, to the extent to
22 which there are spills?

23 A. I just -- you know, I talked to an
24 operator that hauls both liquid waste and surface
25 waste from well sites and asked him that question

1 and he -- his response to me is we -- well, you seem
2 like...

3 Q. I am just making a mental note.

4 A. Well, you know, he just told me that we
5 train those guys to watch for that. And, you know,
6 they just don't open the spigot and just let it
7 drain out. They are going to put a hose on it.
8 They are going to -- if it is -- if the solid waste
9 is coming in it doesn't have any liquid, anyway, and
10 as they drop that material out it is not going to
11 fall out under the truck. So, I guess I am not
12 understanding your question.

13 Q. So you haven't designed a facility like
14 this, before this one. Have you ever actually gone
15 out to one of these facilities and watched the
16 operators?

17 A. Yes, yes. And, you know, going back to
18 the bulk of my experience, we see liquid haulers in
19 landfills a lot of times. And, of course, liquids
20 are handled differently in a solid waste facility,
21 but I know from that practice the way they discharge
22 that waste it is done with a hose and into a tank
23 where that landfill then operates that separately.
24 So, I have never seen in any of those operations all
25 that waste getting thrown up on the bottom of the

1 tires. Could it happen, sure, anything is possible
2 in this world especially if humans are involved.

3 Q. It sounds like you are envisioning a
4 pretty antiseptic operation.

5 A. I am envisioning an operation that is
6 maintained properly.

7 Q. You haven't prepared and included in the
8 application the storm water prevention plans are
9 going to address these so-called best practices
10 about the trucks and the roads?

11 A. No, no.

12 MR. BOHNHOFF: No further questions.

13 CHAIRMAN CATANACH: Anything further?

14 MR. MCGUFFEY: Just a couple of questions.

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1 REDIRECT EXAMINATION

2 BY MR. MCGUFFEY:

3 Q. Does Parkhill, Smith & Cooper have any
4 offices in New Mexico?

5 A. We have had an office in Las Cruces for
6 about six years, yes.

7 Q. Okay. And at the C.K. Disposal site is
8 there contemplated to be staff on the site that
9 would prevent spills or mismanagement of unloading
10 trucks as Mr. Bohnhoff has described?

11 A. Yeah. They will have to have a
12 substantial staff there operating that facility.
13 And the one that I went into which was north of
14 Stanton, Texas, the R360 site, I mean, that place
15 looked like an anthill. There were people
16 everywhere. So, I would anticipate that is the same
17 level of operational people that would be on site.

18 Q. And is this Part 36 application and
19 proposed facility, is that the same as a Legacy
20 facility?

21 A. I don't believe so. This is a different
22 set, different standard, totally different.

23 Q. Totally different?

24 A. Yes.

25 MR. MCGUFFEY: Thank you.

1 CHAIRMAN CATANACH: Mr. Holder, just a
2 couple of questions.

3 EXAMINATION

4 BY CHAIRMAN CATANACH:

5 Q. We did have some experience a few months
6 ago with a similar facility that is in between
7 Carlsbad and Hobbs where the trucks were, in fact,
8 tracking mud onto the highway. Besides your plan to
9 have the truckers knock off as much mud as they can,
10 is there any other contingency that you are planning
11 for, is there any contemplation for maybe a truck
12 wash at the exit to the facility, or is there any
13 consideration as to the material that will be on the
14 roads within the facility, meaning gravel or some
15 other kind of mud control system?

16 A. Well, yeah. A truck wash facility is
17 always a good option. And that is something that
18 would need to be discussed with the owner when we
19 get into that phase to ensure that we are cleaning
20 those trucks off.

21 Q. And the road material at this point is
22 just going to be, what type of material within the
23 facility?

24 A. I believe it is gravel. I -- to be honest
25 with you, I didn't look at that part of the permit

1 that closely. I can look at it. If you give me a
2 minute I can probably find it.

3 Q. Yeah, I would be curious.

4 I don't want to take too much time.

5 A. I didn't write that part of the permit,
6 that's why I'm not really that familiar with it.
7 Normally we call it an all weather road and it can
8 either be caliche based, a lot of these landfills
9 don't want to spend the money for asphalt. I am
10 talking about municipal landfills, not necessarily
11 painting that picture here, but they will go in and
12 do a seal coat where it is a chip seal like do you
13 on City streets. But gravel is certainly easier to
14 maintain, especially in regards if we are going to
15 have a blade, which I would envision that there
16 would be a motor operator with a blade that would
17 keep those roads maintained. If it is paved, then
18 you are probably looking at a power broom or some
19 type of system to really go in and clean the dirt
20 off and grime off of those roads. But it is
21 something that whatever the final design is set up
22 to be, then you're going to have to have a level of
23 maintenance to control that.

24 Q. Okay. That is fine.

25 With regards to the liner material and

1 the -- and all of the rest of the components, how
2 long are those designed to keep their integrity? Is
3 that a consideration?

4 A. Yeah. The high-density polyethylene has
5 been proven to stand up for decades. We have been
6 into some landfills now that I first lined in the
7 mid-'90s, recently as a couple of years ago, and
8 those liners are still functional, intact today.
9 They are -- when they are buried there is no UV to
10 break it down, although they are stabilized to
11 ultraviolet light. So they -- they can withstand
12 anything that is placed on them for decades. And
13 the EPA considered that to be -- they put out there
14 in the original Subtitle D either high-density
15 polyethylene or PVC, but as we all know PVC and
16 solvents is not a good mix so no one uses PVC in
17 liner design, it is all high-density polyethylene.

18 Q. This facility will probably operate for
19 decades, is that your understanding?

20 A. Yes, sir.

21 Q. Will the material -- after the closure
22 would that material still have integrity?

23 A. Yes, it will still have that same
24 integrity.

25 Q. For some time after closure?

1 A. Yes.

2 Q. The difference between the -- this type of
3 facility and a solid waste facility, what is that in
4 your mind, just the liquids processing?

5 A. Just what we are bringing into it and the
6 liner is more robust. The lining system is a dual
7 lining system with a leak detection system, and we
8 don't do that on solid waste facilities.

9 Q. And even in a solid waste facility you
10 still have a certain amount of odors coming off, you
11 have some methane generation on that type of
12 material as well.

13 A. Yes. That is what the daily cover helps
14 mitigate those to some degree.

15 CHAIRMAN CATANACH: That's all I have.
16 Commissioners.

17 COMMISSIONER PADILLA: Just a couple.

18 EXAMINATION

19 BY COMMISSIONER PADILLA:

20 Q. Mr. Holder, I wanted to talk a little bit
21 about the liquids processing area and the offloading
22 site in particular.

23 Having seen a fair number of crude
24 transloading terminals and Rule 34 recycling
25 facilities and things like that, I know when you use

1 hoses and hook directly into the manifolds and use
2 advanced equipment, that the chances of spills are
3 minimized but they are not always. They don't go
4 away entirely. So is there some sort of active
5 spill containment at the -- at the site where the
6 trucks will be offloading liquids?

7 A. I believe they are on a basin that would
8 contain anything and prevent it from going off site.

9 Q. What happens to whatever is collected in
10 that basin?

11 A. I believe it goes into the processing area
12 back -- back into the headworks of that.

13 Q. So the truck would drive into a basin
14 conceivably at a lower depth than the surrounding
15 area?

16 A. Right.

17 Q. Is there some kind of a seal on that
18 basin?

19 A. Yes. It is sloped down to contain all of
20 those liquids in that basin.

21 Q. What is the impermeable layer there?

22 A. I would have to default to Nick, I didn't
23 handle that part of the design.

24 Q. Okay. You said that the SWPPP wasn't a
25 part of the Rule 36. Is that because the OCD

1 doesn't require it as part of this application?

2 A. Well, yeah. They are looking for the
3 specific design of the landfill itself, and I think,
4 you know, they realize that there is going to be
5 other permits required and there is no point in
6 going to those permits until you clear this first
7 hurdle.

8 Q. Okay.

9 A. I mean, without this why would you go try
10 to get a SWPPP on a facility that's not going to be
11 permitted? So you permit the facility first, then
12 before you can operate it, that will be a part of
13 their final ruling is you are going to have to get a
14 Storm Water Pollution Prevention Plan and get that
15 established and that will be a part of that whole
16 document. At the end most landfills have several
17 documents that control their operations.

18 Q. It sounds like C.K. is going to have a
19 multiple administrative processes to get through?

20 A. Fair statement.

21 COMMISSIONER PADILLA: Okay. Thank you.

22 FURTHER EXAMINATION

23 BY CHAIRMAN CATANACH:

24 Q. Mr. Holder, in terms of that permitting
25 process do you see the same process in solid waste

1 management facilities, is that typically -- do they
2 permit the facility first and then the other permits
3 are obtained subsequent to that?

4 A. Usually when they write the final rule
5 permit they say before you operate, you must first
6 do this, and then they will spell out of those out.
7 And in the case of highways, we had a large landfill
8 that required a lot of work with the DOT and the
9 region and they actually went in and widened the
10 road because the anticipated truck traffic that we
11 were going to see.

12 And that took a two-year period. So, it
13 is all part of that whole process and they did that
14 work at the same time the facility was being
15 constructed.

16 Q. And those permits are obtained. The
17 permit for solid waste facility, those are generally
18 permitted through the Environment Department like in
19 New Mexico?

20 A. Yes. And, you know, my experiences with
21 the -- with the state of Texas is that the Texas
22 Commission Environmental Quality which is your NMED.

23 CHAIRMAN CATANACH: Thank you.

24 COMMISSIONER BALCH: I have no questions.

25 THE WITNESS: Thank you.

1 CHAIRMAN CATANACH: Anything further of
2 this witness?

3 MR. MCGUFFEY: No.

4 CHAIRMAN CATANACH: The witness may be
5 excused.

6 MR. WOODWARD: The next witness that the
7 Applicant calls is Todd Stiggins.

8 THE WITNESS: Todd Stiggins, T-O-D-D,
9 S-T-I-G-G-I-N-S.

10 (Whereupon, the witness was previously
11 sworn.)

12 TODD STIGGINS,
13 after having been first duly sworn under oath,
14 was questioned and testified as follows:

15 DIRECT EXAMINATION

16 BY MR. WOODWARD:

17 Q. Mr. Stiggins, would you please turn to
18 Tab D in Applicant's Exhibit notebook and identify
19 this document?

20 A. This is my resume.

21 Q. Did you prepare this document?

22 A. Yes, sir, I did.

23 Q. And does this document accurately reflect
24 your educational and professional experience?

25 A. Yes, it does.

1 Q. I move admission of Exhibit D.

2 CHAIRMAN CATANACH: Any objection?

3 MR. BOHNHOFF: No objection.

4 CHAIRMAN CATANACH: Exhibit D will be
5 admitted.

6 (Applicant's Exhibit D admitted.)

7 Q (By Mr. Woodward) Mr. Stiggins, where did
8 you go to school?

9 A. I graduated with degrees in agricultural
10 systems management and agricultural engineering from
11 Texas A&M University.

12 Q. And what is your professional experience
13 since getting your degrees?

14 A. Beginning as a research assistant in 2002,
15 I studied air emissions, specifically odor and
16 particulate matter emissions from agricultural
17 facilities and using on-site data collected at
18 sampling trips; used dispersion modeling to derive
19 AP42 emission factors for normal operations at those
20 agricultural facilities.

21 From there I went to work for an air
22 quality consultant, air quality permitting and
23 engineering consultant. I worked at -- for an oil
24 refinery client in Houston doing benzene waste
25 operations NESHAPs.

1 I have also worked in whole tank farms,
2 storage tank farms and natural gas processing sites
3 in air quality and groundwater remediation.

4 And my most recent experience is
5 permitting design and construction of municipal
6 solid waste landfills, all facets.

7 Q. Including air issues?

8 A. Yes, sir.

9 Q. When you were a research assistant at
10 Texas A&M were you working with a professor?

11 A. I worked for Drs. Calvin Cornell and Bryan
12 Shaw.

13 Q. What is Dr. Shaw doing now?

14 A. He is the chairman of the Texas Commission
15 on Environmental Quality.

16 Q. What is your role with the C.K. Disposal
17 application?

18 A. In response to a request from OCD I
19 prepared an emissions analysis of the hydrogen
20 sulfide gas to determine potential impacts to the
21 URENCO facility.

22 Q. Would you please refer to Tab S in the
23 Applicant's notebook exhibit.

24 Do you recognize this document behind
25 Tab S?

1 A. Yes, sir, I do.

2 Q. And what is this?

3 A. It is an e-mail from Mr. Griswold with the
4 OCD requesting that we undertake a numeric modeling
5 effort of potential hydrogen sulfide emissions.

6 Q. And you're -- you have seen and are
7 familiar with this document?

8 A. Yes, sir.

9 Q. And it is an accurate copy of the document
10 that you previously seen?

11 A. Yes, sir.

12 MR. WOODWARD: I move admission of
13 Exhibit S.

14 CHAIRMAN CATANACH: Any objection?

15 MR. BROOKS: This is S as in Sierra,
16 right?

17 MR. WOODWARD: Sam.

18 MR. BOHNHOFF: As opposed to Sierra.

19 MR. BROOKS: No objections.

20 MR. BOHNHOFF: No objection.

21 CHAIRMAN CATANACH: Exhibit S will be
22 admitted.

23 (Applicant's Exhibit S admitted.)

24 MR. WOODWARD: Thank you.

25 Q (By Mr. Woodward) Did you familiarize

1 yourself with the regulations of the OCD?

2 A. In order to prepare my report I reviewed
3 both Parts 11 and 36 of the OCD rules as they
4 pertain to hydrogen sulfide, yes.

5 Q. What does Part 11 specifically address of
6 the OCD rules?

7 A. Part 11 establishes a regulatory threshold
8 for H2S gas from well sites, facilities and
9 operations in the oil industry in New Mexico.

10 Q. And is it your understanding that
11 facilities includes surface waste management
12 facilities?

13 A. Yes, sir.

14 Q. Would you please refer to Tab U of the
15 exhibit notebook. Do you recognize this document?

16 A. Yes, I do.

17 Q. And what is this document?

18 A. This is the report that I prepared in
19 September addressing the H2S emissions.

20 Q. On the second page --

21 MR. BOHNHOFF: What exhibit number?

22 MR. WOODWARD: Exhibit U.

23 MR. BOHNHOFF: Thank you.

24 Q (By Mr. Woodward) On the second page of
25 this report, please refer to that. Is this your

1 engineering seal?

2 A. Yes, it is.

3 Q. And you're a Registered Professional
4 Engineer in New Mexico?

5 A. Yes, sir.

6 Q. Can you provide a description of what this
7 report demonstrates?

8 A. The report derives an emission rate to
9 input into an EPA-approved screening model to
10 estimate worst-case scenario or maximum emissions
11 concentrations downwind from an emission source.

12 Q. So you have to make assumptions that are
13 input into the model?

14 A. That's correct.

15 Q. And what is the name of the model?

16 A. Screen 3.

17 Q. And what is a Screen 3 model?

18 A. Screen 3 is a screening version of the
19 industrial source complex model, which is an
20 EPA-approved calcium distribution dispersion model
21 used to estimate downwind concentrations of airborne
22 constituents.

23 Q. Would you please explain how it works.

24 A. The screen model uses site-specific
25 criteria, including an emission rate and terrain

1 along with default meteorological conditions to
2 estimate maximum downwind concentrations.

3 Q. And is this model recognized by any
4 regulatory authorities?

5 A. It is recognized by the Environmental
6 Protection Agency of the United States.

7 Q. What is the model typically used for?

8 A. Screening models are traditionally used to
9 determine whether a more refined modeling analysis
10 should be done for a site.

11 Q. And how is that determination made?

12 A. If the screening model resulted in an
13 exceedance of an air quality standard, then more
14 refined site-specific modeling would be used to
15 determine if an actual exceedance occurred.

16 Q. I believe you have testified that this
17 model establishes a maximum downwind concentration
18 of a specific constituent?

19 A. That's correct.

20 Q. Why did you choose to utilize Screen 3?

21 A. We were instructed by the OCD that
22 Screen 3 was an acceptable model.

23 Q. Well, let's review the assumptions that
24 you made for input data. Would you please list the
25 assumptions for us and let's get them listed and

1 then we will go back and talk about them.

2 A. The assumptions are listed on Page 3 of
3 the report.

4 I assumed that the critical emissions
5 event occurs at the load-out points. The load-out
6 points are the location on the site where tanker
7 trucks are evacuated of the exploration and
8 production liquids.

9 From those load-out points, the liquids
10 move into a closed system for treatment and
11 processing.

12 So, the critical emissions point was
13 determined to be that point because that is the
14 point that the liquids are open to the atmosphere.

15 The load-out basins were treated as
16 individual area sources and it was assumed that the
17 emissions of the H2S occurred evenly distributed
18 over the open area of those load-out basins.

19 The load-out basins were four feet above
20 existing ground level.

21 I assumed that H2S concentrations are
22 measured on a parts per million volume basis in the
23 vapor phase in the headspace of the trucks bringing
24 the load onto the site.

25 The maximum concentration allowed under

1 the permit conditions is ten parts per million in
2 the headspace of those trucks.

3 I assumed that all of the H₂S that is
4 dissolved in an aqueous phase in the water, the EMT
5 liquids escapes into the atmosphere during the
6 load-out process.

7 I used Henry's law to calculate an
8 equilibrium liquid phase concentration, and then
9 from information obtained from a manufacturer of
10 tanker trucks learned that a 130-barrel tank truck
11 could be evacuated in approximately six minutes.
12 Using the concentration and the evacuation rate of
13 the truck, I determined an emission rate of H₂S
14 during the load-out process, input that emission
15 rate into the Screen 3 model and calculated the
16 estimated downwind concentrations.

17 Q. Do you consider these assumptions to be
18 realistic or conservative?

19 A. There are a number of conservative points
20 that were taken into consideration when determining
21 or deriving the emission rate. Those that I would
22 consider conservative is that all of the material,
23 the H₂S that is dissolved in the liquid would escape
24 into the atmosphere during the load-out point.

25 Q. Is that realistic?

1 A. No, sir.

2 Q. But you assume that all of the H₂S from
3 the truck escapes to the atmosphere?

4 A. That is correct. I also assumed the
5 maximum concentration allowed for a vehicle to enter
6 into the facility of ten parts per million.

7 The H₂S management plan or the site
8 operating plan identifies that trucks that come in
9 with a concentration that is measured over ten parts
10 per million would be treated with a calcium
11 hypochlorite to reduce that concentration down to
12 below one part per million.

13 So, the conservatism is that many of the
14 trucks that come in will be less than ten. My
15 analysis assumed that all of the trucks were at ten.

16 Q. And what about the calculation you made to
17 estimate the amount of H₂S entrained or dissolved in
18 the liquids in the truck?

19 A. I determined that using Henry's law the
20 concentration of H₂S dissolved in aqueous phase was
21 in excess of 99 percent of the amount of H₂S that
22 would be found in the tanker trucks coming on site.

23 In other words, the majority of the H₂S is
24 dissolved in the water and not in vapor form.

25 Q. And that all of that is released to the

1 atmosphere?

2 A. All of that is released to the atmosphere.

3 Q. Did you make any assumptions about the
4 number of trucks that are offloading?

5 A. For conservatism we assumed that all eight
6 load-out points were experiencing a load-out event
7 simultaneously. That would be the maximum permitted
8 number of load-out points based on the conditions of
9 the application.

10 Q. So you assumed that the trucks had the
11 maximum amount of H2S they could have under the
12 operating restrictions of the facility?

13 A. Correct.

14 Q. That all of the H2S in the trucks has been
15 released to the environment?

16 A. Correct.

17 Q. And that eight trucks are simultaneously
18 unloading?

19 A. That is correct.

20 Q. At an extremely rapid rate?

21 A. Yes, sir. Within six minutes.

22 Q. You feel pretty comfortable you have
23 estimated the maximum concentration that's going to
24 be expected to be released from this facility?

25 A. At any one time, yes, sir.

1 Q. What did the model show?

2 A. The results of the model are on Page 6.
3 We determined that when all eight load-out points
4 are experiencing a load-out event simultaneously,
5 the predicted downwind concentration at the URENCO
6 property boundaries is approximately 8.7 parts per
7 billion.

8 Q. What does that convert to parts per
9 million?

10 A. That would be .0087 parts per million.

11 Q. And that is at the closest property line
12 on the other side of the highway?

13 A. Yes, sir.

14 Q. Did you make any calculations of what the
15 maximum estimated H2S concentration would be at the
16 URENCO building?

17 A. Yes, we did. We found that to be
18 approximately 5.5 parts per billion.

19 Q. What is that in parts per million?

20 A. .0055 parts per million.

21 Q. Did you compare that to the OCD
22 regulations?

23 A. Yes, we did. We compared it to Part 11.
24 Part 11 sets a regulatory threshold for this
25 facility at 100 parts per million.

1 Q. Do you ever expect this facility to exceed
2 the regulatory threshold of the part outlined in
3 Part 11 in the OCD regulations?

4 A. No.

5 Q. What does the regulatory threshold require
6 if you get to 100 parts per million?

7 A. At 100 parts per million the rule requires
8 that the facility would calculate a radius of
9 exposure. That is the circle the radius around the
10 facility that would have a concentration of H2S up
11 to 100 parts per million.

12 If that area, that circle includes a
13 public area, then the site would be deemed to have a
14 potentially hazardous volume of H2S. Likewise, if
15 the site has concentrations over 500 parts per
16 million, the rule requires that you determine the
17 radius of exposure for all concentrations up to and
18 including 500 parts per million. The rule
19 stipulates that if that radius of exposure includes
20 a public road, then the site would be considered to
21 have a potentially hazardous volume.

22 And if the radius of exposure
23 corresponding to 100 parts per million extends
24 beyond 3,000 feet, that would indicate that the site
25 would have a potentially hazardous volume.

1 Q. The -- have you reviewed the hydrogen
2 sulfide management plan that is in the application
3 of the C.K. Disposal?

4 A. I reviewed it to prepare for this report.

5 Q. So you are familiar with the plan?

6 A. Yes, sir.

7 Q. Do you believe that the plan complies with
8 OCD regulations?

9 A. I believe that it complies with Part 36
10 and Part 11.

11 Q. Is it more or less stringent than what the
12 regulations of the OCD require?

13 A. Part 11 says that if a site does not have
14 100 parts per million on-site they are not required
15 to take any further action to meet requirements
16 within Part 11.

17 Rule 36 states that a surface waste
18 management facility, however, still must prepare an
19 H2S management and contingency plan.

20 Q. Were you here in the hearing room
21 yesterday?

22 A. Yes, sir.

23 Q. Did you hear the testimony regarding the
24 monitoring requirements under the H2S plan of the
25 C.K. Disposal application?

1 A. Yes, I did.

2 Q. Did you hear something about checking
3 monitoring twice a day?

4 A. I did. But it is important to point out
5 that the H2S management plan includes H2S monitors
6 around the evaporation ponds that monitor
7 continuously for H2S.

8 The data is only recorded twice per day
9 for the requirements.

10 Q. Do the monitors have audible alarms?

11 A. They do.

12 Q. And do the monitors also -- designed to
13 alert persons in the gatehouse?

14 A. They are wired in accordance with the plan
15 to communicate with personnel in the scale house,
16 yes.

17 Q. What level do the monitors -- are the
18 monitors set to go off?

19 A. Ten parts per million.

20 Q. Well below the regulatory threshold of the
21 OCD?

22 A. In order of magnitude below.

23 Q. Did you hear Mr. Bohnhoff yesterday talk
24 about spewing H2S on the neighboring properties?

25 A. Yes, sir.

1 Q. Do you agree with that characterization?

2 MR. BOHNHOFF: Objection, Mr. Catanach. I
3 don't believe I ever used the word spewing.

4 MR. WOODWARD: We can check -- we can
5 check the transcript on that, he sure did.

6 CHAIRMAN CATANACH: Can you just not use
7 that word; rephrase your question.

8 Q. (By Mr. Woodward) You heard my question.
9 Did you hear about Mr. Bohnhoff referring to somehow
10 releasing H2S gas on neighboring properties?

11 A. As I recall, the claim was made that all
12 gas, H2S gas, that comes onto the facility would be
13 emitted from the facility.

14 Q. Because the facility is not designed to
15 dispose of H2S, wasn't that the conversation?

16 A. It does not dispose of H2S.

17 Q. How is H2S managed that comes onto the
18 property?

19 A. It is neutralized both in the tanker
20 trucks using a basic solution of calcium
21 hypochlorite and in the evaporation ponds using a
22 basic solution of sodium hydroxide.

23 Q. What does the treatment do to the H2S?

24 A. The treatment oxidizes the H2S and
25 separates the hydrogen and sulfide elements into a

1 more benign elemental phase.

2 Q. It is no longer hydrogen sulfide?

3 A. That is correct.

4 Q. It is no longer a poisonous gas?

5 A. Correct.

6 Q. Is H₂S acidic or basic?

7 A. It is a weak acid.

8 Q. So it exists in a lower pH?

9 A. Yes, lower than seven.

10 Q. Does the H₂S management plan discuss at
11 what pH the ponds are required to be maintained?

12 A. It says, quoting, "optimum levels for the
13 pH range from 8.2 to 9.0."

14 Q. Does H₂S exist at that pH?

15 A. The solution would be basic enough that
16 the hydrogen sulfide in an aqueous form would not
17 exist in high levels.

18 Q. Would we with have some form of hydrogen
19 and some form of sulphur?

20 A. Yes.

21 Q. Does your model have any estimates or the
22 model that you ran and is reported in your report,
23 does it have any estimates for H₂S concentrations at
24 100 meters?

25 A. Yes, it does. The data is included the

1 printout from the results of the model is included
2 in the last six pages of the document.

3 Q. And what does the document report the H2S
4 concentrations are at 100 meters?

5 A. At 100 meters it is 56.22 micrograms per
6 cubic meter.

7 Q. So that would have to be converted to
8 understand what that means in parts per million per
9 volume?

10 A. Correct.

11 Q. Are there any wind rose in your model?

12 A. Wind direction is not taken into
13 consideration in screening models.

14 Q. So your report does not contain a wind
15 rose diagram?

16 A. No, sir, it does not.

17 Q. Were you here yesterday when Mr. Bohnhoff
18 asked Mr. Ybarra about a wind rose and asked him if
19 it came from the H2S model?

20 A. Yes, sir.

21 Q. It did not?

22 A. It did not.

23 Q. So in your work on the -- calculating the
24 potential H2S emissions impacting off site
25 properties, have you reached any conclusions?

1 A. I do not believe that there is a
2 significant impact to the URENCO facility based on
3 the concentrations that were derived from the model.

4 I also do not believe that a potentially
5 hazardous volume of H2S gas, as defined in Part 11
6 of the rules, exists at the facility.

7 Q. Is it your opinion that the plan for
8 management of H2S complies with the regulatory
9 requirements of the OCD?

10 A. I believe it does.

11 MR. WOODWARD: I pass the witness.

12 CHAIRMAN CATANACH: Before we proceed at
13 this point, I would like to mention that I have
14 talked to -- previously to Senator Leavell and I
15 have granted him permission to make a statement. I
16 notice that Senator Leavell just came into the room,
17 and I would indulge the parties to allow Senator
18 Leavell to make a statement at this time.

19 Senator, would you like to come up.

20 SENATOR LEAVELL: Thank you very much. I
21 have Senator Kernan with me also today and is
22 prepared to make a statement.

23 CHAIRMAN CATANACH: We know are you busy.
24 We will try and get you out of here quick.

25 SENATOR LEAVELL: Thank you very much. We

1 do appreciate it and it is a busy time.

2 Okay. I am Carroll, C-A-R-R-O-L-L, H.
3 Leavell, L-E-A-V-E-L-L.

4 Thank you very much, and I appreciate the
5 opportunity to be here and make this statement today
6 and regret that I could not personally be in Lea
7 County when you took the first statements. I did,
8 however, write a statement and left it with them.

9 And roughly this says the same as what the
10 original statement did, and regretfully I must
11 oppose C.K.'s application for a disposal permit.

12 URENCO is -- will be downwind from the
13 C.K. plant. The plant will give off poisonous
14 gases, including hydrogen sulfide. This will
15 subject the URENCO employees to this danger. Odor
16 from these wastes is terrible. I am judging from
17 the Halfway Bar operation and the wind will carry
18 the odors and the gases direct into the URENCO
19 facility. It will be, above all else, I guess
20 unsightly and this will be one of the first
21 experiences our travelers have as they enter
22 New Mexico on Highway 176.

23 Dangers: There will be increased traffic
24 on Highway 18 and 176. Large tractors will make
25 up -- large tractor-trailers will make up most of

1 the additional traffic.

2 Tractor-trailer units unloading at the
3 C.K. facility would carry contaminated mud on the
4 tires as they leave the operation.

5 And I am judging this, again, by the
6 Halfway Bar operation. As I understand it, this
7 will be the same type of -- of product that is going
8 in to disposal there in Eunice will be the same as
9 the Halfway Bar operation.

10 URENCO has spent just under \$5 billion on
11 their plant. Many of us worked hard to sell URENCO
12 to this site in New Mexico. There are approximately
13 400 employees working at the site at this time and I
14 think that is made up of about 300 direct employees
15 and 100 contract employees, plus or minus.

16 The proposed C.K. operation will devalue
17 the surrounding properties. This is a proposed
18 permanent disposal site with no apparent plan for
19 remediation back to a green site. If this plan
20 exists, I have not been made aware.

21 Again, regretfully I oppose this disposal
22 permit. This is the first oil-related project I
23 have opposed in 20 years that I have served in the
24 New Mexico State Senate.

25 With all the vacant land in Lea County, I

1 am sure C.K. can find a location that will serve
2 them as well. Respectfully Carroll H. Leavell.
3 Thank you.

4 CHAIRMAN CATANACH: Thank you, Senator.
5 Senator Kerna, would you also like to make a
6 statement?

7 SENATOR KERNAN: Yes. Thank you very
8 much. Good morning. Gay, G-A-Y, Kernan,
9 K-E-R-N-A-N.

10 Thank you very much for allowing us this
11 opportunity to interrupt your meeting, and we do
12 thank you very much.

13 The permanent disposal of oilfield waste,
14 including liquid waste on 146 acres of land
15 immediately south of URENCO-USA and southeast of the
16 town of Eunice is of concern to me for many reasons.
17 As stated in the temporary permit, C.K. will have
18 the capacity to permanently store over
19 24 million cubic yards of waste generated as a
20 result of exploration production. By the very
21 nature of the fact that it is now necessary to
22 remove and then transport this waste because it
23 cannot be remediated at the site of production, why
24 then is it permissible to place the same harmful
25 odorous waste directly across from a facility that

1 requires an environment to be both clean and
2 pristine.

3 In reviewing the permit conditions in the
4 OCD draft document, C.K. Disposal, LLC, is required
5 to provide financial assurance for the waste
6 management facility's estimated closure and
7 post-closure cost in the amount of \$2.3 million.

8 I have a difficult time understanding how
9 the proposed facility could be decommissioned and
10 remediated at that cost. Updates on the cost after
11 the facility opens is not a sufficient guarantee
12 that the closure will occur in a satisfactory way.
13 In fact, I would look for an example of how this
14 hazard could be be done at the proposed closure
15 cost. And as Senator Leavell mentioned, the
16 facility halfway between Hobbs and Carlsbad, I
17 cannot imagine how that could be remediated?

18 As I stated at the initial hearing through
19 my written statement, I believe that the location of
20 the proposed waste disposal facility in the
21 immediate vicinity of URENCO-USA, the town of
22 Eunice, is a quality of life issue and a health
23 concern for the employees of URENCO and the citizens
24 of Eunice?

25 I understand that the need for such

1 facilities exist and are necessary due to the
2 changes in rule made during the previous
3 administration. But to locate C.K. Disposal, LLC,
4 so close to a major highway, directly across from
5 this 4 billion-dollar facility such as URENCO and
6 southeast of Eunice does a disservice to those who
7 work diligently to secure the enrichment facility in
8 our County, a facility's whose leadership has kept
9 their promise to be the outstanding community
10 partners that they are each and every day.

11 I would encourage the OCC to carefully
12 consider the impact C.K. Disposal will have on the
13 community if it is permitted to operate at the
14 proposed location. Surely a more appropriate
15 location should be considered. Sincerely, Gay
16 Kernan.

17 CHAIRMAN CATANACH: Thank you, Senator.

18 SENATOR LEAVELL: Thank you again.

19 CHAIRMAN CATANACH: Let's go ahead and
20 take a 15-minute break.

21 (A recess was taken.)

22 CHAIRMAN CATANACH: Okay. We will call
23 the hearing back to order and I believe you have
24 finished with this witness.

25 Mr. Brooks, do you have any questions of

1 this witness?

2 MR. BROOKS: I do have one.

3 CROSS-EXAMINATION

4 BY MR. BROOKS:

5 Q. You are Mr. Stiggins, correct?

6 A. That is correct.

7 Q. Mr. Stiggins, is there ever a situation in
8 which a landfill can become a generator of hydrogen
9 sulfide?

10 A. No, sir. The hydrogen sulfide that would
11 exist in a disposal site would all be brought in
12 with waste that is brought into the site.

13 Q. So there would not be any chemical process
14 going on at the landfill that would cause a
15 generation factor?

16 A. It is not likely, no, sir.

17 MR. BROOKS: Thank you.

18 CHAIRMAN CATANACH: Mr. Bohnhoff.

19 COMMISSIONER PADILLA: Thank you,

20 Mr. Chairman.

21 CROSS-EXAMINATION

22 BY MR. BOHNHOFF:

23 Q. Good morning, Mr. Stiggins.

24 A. Good morning.

25 Q. As an initial point would you turn to

1 Volume 2 of the C.K. application. It is notebook
2 Volume 2. Do you have it there?

3 A. Yes, sir.

4 Q. Attachment K, turn to Page 2 at the
5 beginning of that attachment.

6 I want to touch on an issue that was
7 brought up with Mr. Holder but then tied in to a
8 statement that you made. If you look down there at
9 Table K-1 at the bottom of Page 2, that answers the
10 question of how many personnel are anticipated to be
11 on the site when it is fully operational, right?

12 A. It appears that that is what the table
13 says.

14 Q. And if I am counting correctly, there is
15 going to be between eight and 13?

16 A. Again, according to the table.

17 Q. That is not really consistent with
18 Mr. Holder's suggestion that there would be an
19 anthill of activity, is it?

20 A. I didn't make that statement. I don't
21 know what he was alluding to by anthill of activity.

22 Q. It is the laborers who would probably be
23 monitoring the hydrogen sulfide levels doing the
24 daily inspections around the evaporation ponds,
25 right?

1 A. Well, the first point of compliance would
2 be the hydrogen sulfide sensors that would monitor
3 the hydrogen sulfide at the facility. The laborers
4 would receive -- well, each of the individuals
5 listed in that table would have the potential to
6 receive communications from those sensors.

7 Q. In terms of the daily physical inspections
8 of the monitors twice a day, those are going to be
9 the laborers that do that, right?

10 A. Not necessarily. In many instance
11 landfill managers even perform inspections at the
12 site.

13 Q. Laborers are probably going to be paid
14 minimum wage, right?

15 A. I don't know.

16 Q. Relatively low education level?

17 A. I don't know. That would be up to the
18 owner.

19 Q. Let's look at your resume that is in the
20 smaller notebook of C.K. exhibits. You're at
21 Exhibit D.

22 Have you ever performed work on an
23 oilfield waste disposal facility similar to C.K.'s?

24 A. No, sir, this is the first one.

25 Q. Have you ever performed work in

1 New Mexico?

2 A. This is the first site that I have worked
3 at in New Mexico.

4 Q. Now if we look at the second paragraph of
5 the narrative there in your resume, you talk about
6 your modeling experience and you have done modeling
7 for agricultural facilities and then modeling at a
8 Texas oil refinery. How many modeling projects did
9 you work on for the agricultural facilities?

10 A. Two cotton gins, one dairy and three
11 feedyards, cattle feedyards.

12 Q. And then the modeling project at the Texas
13 oil refinery, is that just one project?

14 A. That's correct.

15 Q. That gives us seven total modeling
16 projects?

17 A. If your math is correct.

18 Q. And you agree with that, right?

19 A. That is correct.

20 Q. There was some discussion on your direct
21 exam about the interplay of OCD Regulation Part 11
22 and Part 36. I am paraphrasing a bit here, but is
23 it your understanding that Part 11 does not exempt
24 or otherwise excuse the surface waste management
25 facility such as that proposed by C.K. from more

1 stringent conditions on the handling of hydrogen
2 sulfide required by Part 36?

3 A. That is correct.

4 Q. And one of the requirements of Part 36 is
5 that it be shown that the facility can be operated
6 without endangering public health or the
7 environment. Is that your understanding?

8 A. With regards to H₂S the only requirement
9 is that a management and contingency plan be
10 prepared.

11 Q. That is the only specific requirement that
12 actually spells out hydrogen sulfide, but would you
13 agree that there is a general requirement that the
14 facility has to be operated without endangering
15 public health or the environment?

16 A. I would say that is correct.

17 Q. Before you did the modeling project, or
18 while you were doing the modeling project for the
19 C.K. facility -- C.K. facility, did you familiarize
20 yourself with the New Mexico Ambient Air Quality
21 standard for hydrogen sulfide?

22 A. It was not within the scope of this
23 analysis.

24 Q. So in terms of what -- the modeling work
25 that you did, you really were not interested in

1 determining whether your modeling would establish an
2 exceedance of the Ambient Air Quality standard?

3 A. It is not that I was not interested in
4 comparing the analysis to the Ambient Air Quality
5 standards. The interest was to address the rules
6 under which the facility is being -- pursuing a
7 permit.

8 Q. You understand that the Ambient Air
9 Quality standard is a health based standard?

10 A. That's correct.

11 Q. And just so we are clear, the levels that
12 are set for those standards are levels that are
13 established for the purpose of protecting the public
14 health?

15 A. That would be correct.

16 Q. And you understand that ambient air
17 quality is air quality outside or at the fence line
18 of the facility that is generating emissions, right?

19 MR. WOODWARD: Mr. Chairman, we had this
20 discussion yesterday and I know there is going to be
21 some concerns about whether we are going to finish
22 this hearing in three days. I have been kind of
23 going along listening to the cross-examination about
24 ambient air quality and those items that are before
25 the NMED, and discussions about traffic. But I just

1 want to make sure that this comes off of their time
2 when we come establishing whether we are going to be
3 getting into and looking at having to continue this
4 matter.

5 CHAIRMAN CATANACH: The cross-examination
6 is coming off their time, Mr. Woodward.

7 Mr. Bohnhoff, are you going continue with
8 this line of questioning?

9 MR. BOHNHOFF: Some. But I understand my
10 cross-examination is part of my day and a half, just
11 as Mr. Woodward's cross-examination is going to be
12 part of his day and a half. And certainly
13 notwithstanding, I believe that my cross-examination
14 is fully consistent with the Commission's ruling
15 yesterday. I am talking about health environment,
16 public health and environment and safety. I am not
17 talking about compliance with the regulations.

18 CHAIRMAN CATANACH: Okay. Let's proceed.

19 Q (By Mr. Bohnhoff) Since you have the
20 performed modeling back in September of last year,
21 you looked up what the New Mexico Ambient Air
22 Quality standard for hydrogen sulfide is at the
23 fence line within the Permian basin, right?

24 A. Yes.

25 Q. It is .1 part per million, correct?

1 A. That is correct.

2 Q. Outside of the Permian basin it is
3 actually a factor of ten, stricter than that, right?

4 A. It would be lower. That is correct.

5 Q. Turn, if you would, to Exhibit S. We
6 looked at that at the beginning of your direct exam.
7 That is the e-mail from Mr. Griswold. What was
8 requested was modeling of potential hydrogen sulfide
9 emissions from the evaporation ponds. Do you see
10 that?

11 A. Yes, I do.

12 Q. What you did is you performed modeling at
13 the load-outs, right?

14 A. That is correct. It is unlikely that H2S
15 emissions comes from the evaporation ponds.

16 Q. Did you make that decision on your own?

17 A. In compliance with the Appendix A of
18 Attachment K, the H2S management plan.

19 Q. You were asked to perform modeling at the
20 evaporation ponds and modeling at the load-out
21 station. My question is did you make that decision
22 on your own?

23 A. Yes, I did.

24 Q. The Screen 3 model that you used, let me
25 ask you of the seven previous modeling projects that

1 you have done did you use the Screen 3 model for
2 those?

3 A. All of those were performed with the full
4 version of the model industrial source complex.

5 Q. Okay. And the Screen 3, as I understand
6 your testimony, is performed in order to determine
7 whether there is an exceedance of a standard that
8 will trigger performance of a more robust modeling?

9 A. That is correct.

10 Q. So this is the first time that you have
11 used Screen 3?

12 A. That is correct.

13 Q. Screen 3 is, notwithstanding the fact that
14 it is approved by EPA, it is an outdated model,
15 wouldn't you agree?

16 A. The EPA still finds Screen 3 to be
17 suitable on a case-by-case basis as determined by
18 the regulatory agencies.

19 Q. It is simplistic. Would you agree with
20 that?

21 A. The screening models by nature are much
22 simpler than the more refined modeling software
23 packages.

24 Q. One thing that Screen 3 can't handle is
25 emissions coming from multiple sources, right?

1 A. That is correct.

2 Q. Just so we are clear on the record, you
3 didn't run any modeling using any other models other
4 than just Screen 3?

5 A. Screen 3 was the only model that was
6 utilized.

7 Q. You told us that as a result of your
8 modeling was that it would be predicted based on
9 these assumptions that you fed into the model,
10 concentration of eight parts per billion and the way
11 Mr. Woodward phrased the question was eight parts
12 per billion at the closest property line on the
13 other side of the highway, which is the LES property
14 line, right?

15 A. To the north. That is correct.

16 Q. So one of your assumptions effectively is
17 that the wind blows only from the south, right?

18 A. No. In essence this could be radially
19 around the site. There is no wind direction taken
20 into effect.

21 Q. Well, what you didn't do was calculate
22 what the predicted or estimated hydrogen sulfide
23 concentration would be at the south fence line given
24 your other assumptions of emissions at the load-out,
25 right?

1 A. That was not what we were directed to do
2 with this analysis, no, sir.

3 Q. Well, Mr. Griswold asked for simply a
4 modeling at the evaporation pond. Who made the
5 decision that you were only going to model
6 concentrations at the north fence line and farther
7 north from that as opposed to modeling at the south
8 fence line?

9 A. Communications, phone calls and e-mails
10 were used to determine that the intent of this
11 analysis was to determine the impact to the URENCO
12 facility.

13 Q. Was this e-mails and phone calls within
14 PSP?

15 A. No. Phone call with the OCD.

16 Q. It was Mr. Griswold that told you to model
17 only at the north fence line and farther north from
18 that?

19 A. That is correct.

20 Q. If you're going to model for the ambient
21 air concentration you should look to the closest
22 fence line, shouldn't you?

23 A. In order to analyze compliance with
24 Ambient Air Quality standards, you would identify
25 the concentrations at all property lines not just

1 the closest.

2 Q. Okay. All right. All property lines then
3 would include the southern fence line here which
4 would also be the closest fence line, right?

5 A. That would be correct. Again, if we were
6 trying to determine compliance with an Ambient Air
7 Quality standard.

8 Q. The south fence line is about 60 meters?

9 A. I am not sure.

10 Q. Can we agree that it is less than
11 100 meters?

12 A. The scale aerial that I have in front of
13 me is not tight enough to make that determination.

14 Q. I'm sorry, your modeling, is that
15 attach -- which attachment is that, Attachment M?

16 A. The modeling is not in the permit. It is
17 not part of the application.

18 Q. It is Exhibit U, right?

19 A. That is correct.

20 Q. Okay. You testified on direct that your
21 model did generate a concentration figure for
22 100 meters. If we go to Appendix A at the back of
23 Exhibit U, we look at the first page of table and
24 data in the appendix, is that where you get that
25 56.22 micrograms per cubic meter figure?

1 A. That is correct.

2 Q. What is the assumption about the wind
3 direction that you made as part of this modeling?

4 A. Again, no wind direction was taken into
5 consideration during this modeling effort.

6 Q. So the model effectively just assumes that
7 the wind is coming from a single direction and it
8 generates concentrations at 100-meter intervals?

9 A. I don't think it is safe to say that it
10 assumes the wind is coming from one direction. The
11 model runs an iterative process of calculations to
12 determine what the maximum concentration would be at
13 any distance away from the source based on built-in
14 meteorological conditions.

15 Q. All right. So, assuming the wind is
16 coming from a direction, this model generates the
17 concentration 100 meters away?

18 A. It is not limited to 100 meters away.

19 Q. Understood. But this figure that we are
20 given -- we are getting there, 56.22, whatever the
21 direction is the wind is blowing, this gives us the
22 concentration at 100 meters?

23 A. The maximum concentration at 100 meters
24 radially around the site would be 56.22 based on the
25 model.

1 Q. You haven't converted the microgram per
2 cubic meter figure into parts per million?

3 A. Not the 56.22, no, sir.

4 Q. Do you recall the testimony of Mr. Ybarra
5 yesterday, he did acknowledge that from time to time
6 the wind blows from the north at that site?

7 A. I believe the wind would blow from every
8 direction from time to time.

9 Q. One assumption that you didn't talk about
10 but you really effectively made in terms of
11 estimating hydrogen sulfide levels is that there is
12 no background hydrogen sulfide concentration in the
13 atmosphere, right?

14 A. That is correct.

15 Q. If there was some background level then in
16 order to make an estimate of what the concentration
17 would be as a result of the emissions from C.K. you
18 would have to add the two together, wouldn't you?

19 A. We would have to know the background
20 concentrations in the area. That is correct.

21 Q. You didn't investigate at all what
22 background concentrations of hydrogen sulfide in
23 this neighborhood would be?

24 A. No.

25 Q. I believe you told Mr. Woodward that the

1 assumption that the only source of hydrogen sulfide
2 is that coming from the tanker load-out was not a
3 realistic assumption?

4 A. It is a very conservative assumption.

5 Q. Okay. It is also not realistic, is it?

6 A. Not in the real world, no, sir.

7 Q. Because in reality under the system or
8 liquid processing system that Mr. Ybarra described
9 for us yesterday, hydrogen sulfide is going to be
10 released from these oil separation steps in the
11 process, right?

12 A. Not necessarily.

13 Q. The water sits in tanks, they are heated,
14 at times hydrogen sulfide that is in the water that
15 is brought to the facility is going to be released
16 during the course of that process, right?

17 A. The tanks are closed.

18 Q. At some point they are open and the
19 atmosphere, the air that is in it is going to be
20 released, right?

21 A. No. The tanks are a closed system so air
22 emissions would not come from the tanks.

23 Q. Can we agree that during that treatment
24 process hydrogen sulfide is going to be emitted from
25 the water into the atmosphere in the tanks?

1 A. Not into the atmosphere outside of the
2 tank.

3 Q. But into the air that is inside the tank?

4 A. You could make that surmise, yes.

5 Q. All right. What you are saying is that
6 air is never going to escape or be released into the
7 ambient atmosphere?

8 A. Under normal operations that air would not
9 be released.

10 Q. Hydrogen sulfide certainly will be
11 released into the atmosphere by the stripper, won't
12 it?

13 A. According to Page 12 of Attachment K, the
14 site operating plan, it says, quote, "At this time
15 expected air would simply be off-gassed to the
16 ambient atmosphere."

17 Q. So the answer to my question is yes?

18 A. Yes.

19 Q. Now, as I understand your modeling, your
20 thought is that assuming load-out of eight trucks
21 simultaneously and the release of all of the
22 hydrogen sulfide that you calculated would be in the
23 liquid over the course of six minutes, that gives
24 you a worst-case scenario for hydrogen sulfide
25 emissions?

1 A. Correct.

2 Q. What it gives us is a worst-case scenario
3 of the release of hydrogen sulfide that is contained
4 in eight tanker trucks, but that is the extent of
5 the worst-case scenario, isn't it?

6 A. It would be the maximum amount that could
7 be brought on site in tanker trucks, yes.

8 Q. Well, you could have water with hydrogen
9 sulfide in it that comes from many, many trucks and
10 accumulates over time at the facility, right?

11 A. Where would it accumulate?

12 Q. Well, one place it could accumulate is in
13 the stripper machine, right?

14 A. The stripper is a process so there would
15 be no accumulation.

16 Q. And your assumption is that there is going
17 to be no hydrogen sulfide at all in these
18 evaporation ponds, right?

19 A. That is correct.

20 Q. You have got these monitors all around the
21 evaporation ponds, right?

22 A. According to the permit, yes.

23 Q. And you have got this requirement that
24 they are going to be monitored and if the hydrogen
25 sulfide concentration in the atmosphere above the

1 evaporation ponds gets to ten parts per million,
2 action is taken.

3 Is that just an empty exercise because
4 there is, in reality, going to be no hydrogen
5 sulfide in the evaporation ponds?

6 A. I did not author the hydrogen sulfide
7 management and contingency plan. I can't speak to
8 the extent of the monitor.

9 Q. The plan is required by the OCD, this
10 monitoring and maintenance of ten parts per million?

11 A. The regulatory threshold for the facility
12 is 100 parts per million. The submitted application
13 has a compliance threshold on site of ten parts per
14 million.

15 Q. The monitoring at the evaporation pond is
16 really based on the fact that mistakes happen,
17 right?

18 A. The monitoring is for employee safety.

19 Q. And you need to monitor because the system
20 breaks down and you can't assume that all of the
21 hydrogen sulfide in the evaporation pond, in fact,
22 will be neutralized by the sodium hydroxide?

23 A. The monitoring system would exist in the
24 event that the process obtained a flaw.

25 Q. Would you agree that air contaminant

1 dispersion modeling is a difficult exercise at best?

2 A. Can you explain difficult?

3 Q. Inexact.

4 A. It is -- does not come without its faults,
5 no.

6 Q. Particularly when you are using this
7 simplistic model?

8 A. The nature of the model is to try to
9 quantify a lot of variables in the atmosphere with
10 some standard across the engineering industry.

11 Q. Because the modeling isn't exact, that is
12 why you need to make worst-case assumptions, right?

13 A. I believe that the worst-case assumptions
14 made herein were to determine what would be the
15 maximum emissions rates that would be observed at
16 the site.

17 Q. I don't believe you answered my question.
18 My question was, you make worst-case assumptions
19 when you're modeling because it is an inexact
20 process, right?

21 A. You make worst-case assumptions for
22 conservatism.

23 Q. In part because the modeling exercise
24 itself is inexact?

25 A. I am not prepared to commit that the

1 modeling exercise is inexact when it is approved by
2 the United States Environmental Protection Agency.

3 MR. BOHNHOFF: I pass the witness.

4 CHAIRMAN CATANACH: Redirect?

5 MR. WOODWARD: Yes, sir, I have a couple
6 items I would like to address.

7 REDIRECT EXAMINATION

8 BY MR. WOODWARD:

9 Q. Mr. Stiggins, you were asked about whether
10 you made the choice to use the load-out location as
11 the source of the emissions. Why did you make that
12 choice?

13 A. I determined that the load-out points were
14 the location that the H2S would be exposed to the
15 atmosphere.

16 Q. Do you expect concentrations of H2S
17 released atmosphere from a stripper be any higher
18 than the assumptions used in the model?

19 A. Based on the emission rate, no.

20 Q. So if you were to pick the stripper as a
21 point of the emission release, you would not expect
22 the concentrations of H2S to be modeled any higher?

23 A. No.

24 Q. Based on your understanding of the
25 operation requirements for evaporation ponds and

1 maintaining the pH, do you anticipate that the H2S
2 monitoring will ever been triggered?

3 A. Based upon the H2S management plan, I
4 believe that it is unlikely that ten parts per
5 million would be achieved in the atmosphere to
6 trigger the monitors.

7 Q. So the monitors would not be triggered?

8 A. No.

9 MR. WOODWARD: Mr. Chairman, I believe in
10 my direct I forgot to offer Exhibit U into the
11 record and so I would like to make that offer at
12 this time.

13 CHAIRMAN CATANACH: Any objections?

14 MR. BROOKS: No objection.

15 MR. BOHNHOFF: No objection.

16 CHAIRMAN CATANACH: Exhibit U will be
17 admitted.

18 (Applicant's Exhibit U admitted.)

19 MR. WOODWARD: Pass the witness. Thank
20 you.

21 CHAIRMAN CATANACH: Just a couple of
22 questions.

23 EXAMINATION

24 BY CHAIRMAN CATANACH:

25 Q. Mr. Stiggins, the treatment in the ponds

1 at what intervals is that going to occur? Is that
2 just when you deem it -- the staff deems it
3 necessary?

4 A. It would be based upon daily measurements
5 of the pH in the ponds. So, if the pH were not in
6 the optimal range, treatment would occur
7 immediately.

8 Q. So the treatment for the pH would be the
9 factor that would reduce any H₂S in that fluid?

10 A. Correct.

11 Q. And that would be monitored daily?

12 A. Correct.

13 Q. Okay. Your H₂S monitors are located
14 surrounding the ponds, correct?

15 A. Yes. In accordance with Page 6 of
16 Appendix A in Attachment K, H₂S monitors will be
17 placed around the evaporative ponds in accordance
18 with Attachment B, engineered design plans.

19 Q. Are the H₂S monitors located elsewhere on
20 site?

21 A. I believe that they are also located at
22 the property boundary.

23 Q. The entire property boundary surrounding
24 the whole facility?

25 A. I am uncertain of that.

1 Q. How do you determine what height to make
2 these H2S monitors?

3 A. I did not make that determination.

4 Q. Can you tell me the density of H2S as
5 compared to air densities, is it heavier than air?

6 A. Denser than air.

7 Q. So at your unloading points the H2S would
8 tend to sink if it was heavier than air?

9 A. That is correct.

10 Q. So what is the disbursement mechanism at
11 the point of unloading, is it just if there is no
12 wind that you are assuming, how is that H2S
13 disbursed?

14 A. So there is wind speed assumed in the
15 model in order to take into account worst-case
16 scenario meteorological conditions. So wind would
17 be the sole source of disbursement.

18 Q. So what happens when there is no wind?

19 A. The H2S would sit in the pit.

20 Q. So that would become a danger if that
21 happens, the H2S concentrations would increase?

22 A. Not necessarily. The H2S would --
23 eventually the H2S can -- if it is in aqueous form
24 which it likely remains in aqueous form in the
25 water, then it would be pulled into the processing

1 equipment.

2 Q. Could that build up over time, though, the
3 H2S that is released into the atmosphere at that
4 unloading point?

5 A. I suppose it's possible, yes.

6 Q. If -- I take it your model did not assume
7 a wind direction. Is that correct?

8 A. That is correct.

9 Q. If you assumed a wind direction, would
10 that increase the concentration, like if you assumed
11 a south wind, would that increase the concentration
12 going towards the URENCO facility?

13 A. It would not increase the concentrations
14 predicted by the model. It would just assign a
15 polar coordinate where that concentration would
16 possibly occur.

17 Q. The south fence line of the facility is
18 located closer to the ponds. Would you expect that
19 concentration to be higher at the south end of the
20 facility?

21 A. Yes.

22 Q. Is there anything -- is there anything to
23 the south of your facility that would be endangered
24 by that? I don't believe there is, but looking at
25 the diagrams.

1 A. The aerial photographs that I have seen
2 show just vacant land to the south.

3 Q. So the prevailing winds being from the
4 south or the southwest, you wouldn't expect anything
5 to -- I guess occasionally you might have some, you
6 have got Eunice that is several miles away. Would
7 you expect any danger of H2S from that occurrence?

8 A. So we analyzed up to 2,000 meters away
9 from the emissions point. And the concentrations
10 there were less than .5 micrograms per cubic meter.
11 So they would be low, in the low parts per billion
12 range.

13 Q. And I don't know exactly how far Eunice
14 is, but it is a mile or two?

15 A. Four miles, I believe is what.

16 Q. So you wouldn't expect any danger --

17 A. Not to the City of Eunice.

18 Q. -- to that area?

19 A. No.

20 CHAIRMAN CATANACH: Okay. Nothing
21 further.

22 EXAMINATION

23 BY COMMISSIONER BALCH:

24 Q. Good morning, Mr. Stiggins. It looks like
25 your estimated at the north fence line is about a

1 quarter magnitude more than the .1 part per million
2 from the Permian basin.

3 A. At the north property line of C.K.
4 Disposal, yes, it is 13 parts per billion, so
5 approximately one order of magnitude.

6 Q. .0013 parts per billion?

7 A. That is correct.

8 Q. In regards to counsel's question about the
9 56.22 micrograms per meter cubed -- parts per
10 million, I don't have the weight component and
11 therefore H2S, I can't make that conversion easily
12 on my phone. Can you provide a number for that?

13 A. There is a conversion on Page 6 at the top
14 of the page. That would be Page 6 of my report in
15 Exhibit U.

16 Q. So could you make that calculation and
17 tell us what the parts per million number would be?

18 A. I would love to have a calculator to do
19 that.

20 Q. I could give you the one on my phone.

21 A. So you would take the micrograms per cubic
22 meter, which is 56.22, and multiply times 7.0583.
23 The exponents work out to times ten to the minus
24 four.

25 Q. That is 396 times ten minus four.

1 A. Correct.

2 Q. So .03.

3 A. Yes.

4 Q. It is still below the .1 limit --

5 A. Correct.

6 Q. -- by a factor of three.

7 A. Yes.

8 Q. Thanks for helping me with that.

9 You're required to record twice daily on
10 the H2S monitors but you indicated that they
11 actually record continuously you just sample them a
12 couple of times a day?

13 A. The monitors would continuously operate to
14 detect the concentration of H2S. Recordings would
15 just be made and recorded in the site operation plan
16 twice per day.

17 Q. If there were an event that triggered an
18 alarm would it also record -- would that data be
19 recorded as well as your regular two times per day
20 sampling?

21 A. Yes. Any exceedance would be recorded in
22 the site operation plan --

23 Q. As part --

24 A. -- in accordance with the contingency
25 plan.

1 Q. Part of whatever air quality permit you
2 would have to get subsequent to this you would have
3 to cross that?

4 A. I think it would be required under Part 11
5 of the OCD rules also.

6 COMMISSIONER BALCH: Thank you.

7 EXAMINATION

8 BY COMMISSIONER PADILLA:

9 Q. Good morning, Mr. Stiggins.

10 A. Good morning.

11 Q. I think this has been pretty extensively
12 covered, so I will just ask you a couple of
13 questions. Going back to your conversation with the
14 OCD in which a determination was made that the north
15 fence line was really the area of interest for
16 these, these measurements or estimates, was there
17 ever any discussion about the east fence line?

18 A. No. The intent scope of the model was to
19 determine the impacts to URENCO only.

20 Q. Because just looking at these, some of
21 these topos, I noticed that the County landfill is
22 well within some parts of it and it looks like maybe
23 even the weigh station is well within the 500-foot
24 boundary from the eastern boundary of C.K.'s site.

25 And given that there has been testimony to

1 the -- on the basis of there being some kind of
2 southwesterly winds in the area it would seem like
3 that landfill and its personnel would be, you know,
4 impacted in the event if there were one. Was there
5 ever any discussion with OCD about taking that into
6 account and measuring the eastern boundary?

7 A. No.

8 Q. Do you have any idea why not?

9 A. The response to the modeling requirement
10 was a response to a letter that was submitted on
11 behalf of URENCO signed by six elected officials
12 that were curious to the impacts of H2S on URENCO.
13 So the modeling effort was held to -- we were
14 instructed by OCD just to focus on the impacts to
15 URENCO.

16 Q. It seems like maybe there is a gap there
17 if you have County personnel in that trajectory and
18 they weren't taken into account?

19 A. So, I think that an air quality, a total
20 air quality assessment in order to determine whether
21 an air quality permit is required for the facility
22 would take that into account.

23 Q. Maybe we could ask Mr. Griswold later
24 about that, not the air quality thing but the
25 requirement.

1 COMMISSIONER PADILLA: That's all I have.

2 Thank you.

3 COMMISSIONER BALCH: I have some more
4 questions, I'm sorry, a couple of them.

5 FURTHER EXAMINATION

6 BY COMMISSIONER BALCH:

7 Q. You may remember yesterday I asked
8 Mr. Holder about the Sundance facility and H2S
9 emissions possibility from there. Would you be able
10 to weigh in on that since you seem to be in a little
11 bit of an expert on H2S?

12 A. I am unfamiliar with the operations at the
13 Sundance facility. As I understand, the Legacy
14 facilities do not provide treatment. The produced
15 water is brought in and simply put into ponds that
16 are open to the atmosphere.

17 Q. So no treatment for H2S?

18 A. No treatment for H2S occurs there and
19 emissions potentially could be higher from that
20 facility.

21 Q. That would be required for Part 36 or
22 Rule 36?

23 A. Correct.

24 Q. There was a question brought up by counsel
25 about how many people would be on site, and I

1 noticed on Page 2 of Attachment K and Book 2 of
2 Exhibit AA that there is nothing -- there is another
3 category of employee, "Other supplemental personnel
4 on site as necessary for duties such as
5 self-construction, operation and maintenance of
6 leachate management system, groundwater monitoring,
7 natural gas monitoring, site maintenance and litter
8 cleanup." Those people aren't in that table.

9 A. They do not appear to be listed in the
10 table.

11 Q. Would you have a feel for a number of
12 people that might be associated with that? That is
13 quite a number of operations.

14 A. I think that would be an operational
15 decision based upon the owner just to determine
16 whether personnel were needed in order to make sure
17 that they remained in compliance with the permit.

18 Q. Okay. So there would be additional people
19 besides the eight to 13 that are on the table?

20 A. Potentially.

21 COMMISSIONER BALCH: Thank you.

22 CHAIRMAN CATANACH: Anything further of
23 this witness?

24 MR. WOODWARD: May I follow up with one
25 question, please.

1 CHAIRMAN CATANACH: Yes.

2 FURTHER REDIRECT EXAMINATION

3 BY MR. WOODWARD:

4 Q. With regards to the Lea County municipal
5 landfill to the east of the C.K. facility, if you
6 took the results from your model and put that on a
7 map, you could determine what the impacts are
8 estimated to be based on your model, could you not?

9 A. That is correct.

10 Q. Because it is not sensitive to direction,
11 it just concentrates -- it calculates a certain
12 distance out and it could be taken in any direction?

13 A. It is independent of one direction would
14 be 360 degrees around the site.

15 Q. So if we went to a drawing in the
16 application that showed the property line to the
17 east, and calculated the distance, you could look at
18 your model and determine what that impact is?

19 A. Yes.

20 Q. Could we go through that exercise real
21 quick?

22 A. Sure.

23 Q. I think there are drawings in
24 Attachment A. The site development plan has a
25 detail Figure A.2 or which one did you pull there?

1 A. A.2, the site development plan.

2 Q. Okay. Do you have a way of measuring
3 distances?

4 A. I have a scratch piece of paper I could
5 scale off.

6 MR. WOODWARD: We have a scale.

7 Q (By Mr. Woodward) What distance did you
8 measure?

9 A. From the easternmost load-out point it
10 would be approximately 1,930 feet.

11 Q. That is to the closest property line to
12 the east?

13 A. That is correct. It is approximately
14 633 meters. The concentrations reported are not
15 linear, so choosing the point between 600 and 700 to
16 get 633, it would not be exact because it is a
17 normal distribution.

18 So, it would be somewhere between two and
19 a half and 3.2 micrograms per cubic meter.
20 Conservatively we will choose the larger number of
21 3.2 micrograms per cubic meter.

22 COMMISSIONER BALCH: That is 22 times ten
23 minus four?

24 THE WITNESS: That is correct, 22.6.

25 Q. (By Mr. Woodward) What was it again?

1 A. 22.6 times ten minus four parts per
2 million, so that would be .022.

3 COMMISSIONER BALCH: .0022.

4 THE WITNESS: .0022 parts per million.

5 MR. BOHNHOFF: How many zeros in that
6 part?

7 THE WITNESS: Two, .0022.

8 MR. BOHNHOFF: Parts per million.

9 Q. (By Mr. Woodward) That exercise could be
10 taken to any distance surrounding the C.K.
11 facility --

12 A. That's correct.

13 Q. -- or from that load-out point?

14 A. From the load-out point, yes.

15 COMMISSIONER PADILLA: Just so we are
16 clear, we are talking about the load-out point on
17 the southwestern edge of the -- I guess that is the
18 only load-out point, the southwestern edge of the
19 evaporation pond area?

20 MR. BOHNHOFF: Mr. Catanach, could I
21 follow up to clarify?

22 CHAIRMAN CATANACH: Yes.

23 MR. BOHNHOFF: Thank you.

24

25

1 RECROSS EXAMINATION

2 BY MR. BOHNHOFF:

3 Q. If you will look at your Page 6, that
4 formula for calculating for converting from
5 milligrams per cubic meter to parts per million.

6 If I understand you, you multiply 56.22
7 times 7.05 -- 7.0583 times two to the negative four.
8 If we look at that table, the first table, that is
9 an emission per one load-out point, right?

10 A. That is correct.

11 Q. So your figure of .04 parts per million or
12 396 times ten to the negative four, that's the
13 concentration generated by one load-out point,
14 right?

15 A. That would be correct.

16 Q. So in order to calculate the concentration
17 based on your worst case, what you call the
18 worst-case scenario assumption of eight load-outs at
19 the same time, we have to multiply that by eight?

20 A. That is correct.

21 Q. And if we round 396 up to the 400 we get
22 .04 parts per million, multiply that by eight we get
23 .32 parts per million, right?

24 A. .313.

25 Q. .3 parts per million?

1 A. That is correct.

2 Q. Now when you scaled the distance to the
3 west boundary from the easternmost load-out, did you
4 say you got 930 feet or 1,930 feet?

5 A. 1,930 feet.

6 Q. And the figure that you generated was
7 .0022 parts per million. Again, is that a figure
8 that is generated by one load-out point or eight?

9 A. One.

10 Q. So we would have to multiply that by eight
11 to come up with your calculated west boundary
12 concentration, right?

13 A. To match a worst-case scenario.

14 Q. Why don't you go ahead and do that.

15 A. It would be .018 parts per million.

16 MR. BOHNHOFF: Thank you, Mr. Catanach.

17 CHAIRMAN CATANACH: This witness may be
18 excused.

19 MR. WOODWARD: Mr. McGuffey is going to
20 handle the next witness.

21 MR. MCGUFFEY: The Applicant calls Mark
22 Turnbough.

23 THE WITNESS: My name is Mark, M-A-R-K,
24 Turnbough, T-U-R-N-B-O-U-G-H.

25 (Whereupon, the witness was previously

1 sworn.)

2 MARK TURNBOUGH,
3 after having been first duly sworn under oath,
4 was questioned and testified as follows:

5 DIRECT EXAMINATION

6 BY MR. MCGUFFEY:

7 Q. Good morning, Mr. Turnbough.

8 A. Mr. McGuffey.

9 Q. Would you please turn in the smallest
10 binder on your table to Tab F.

11 A. I have it.

12 Q. Do you recognize this document?

13 A. I do.

14 Q. And could you identify it for the record,
15 please?

16 A. This is my resume.

17 Q. Did you prepare this resume?

18 A. I did.

19 Q. All 34 pages of it?

20 A. Yes.

21 Q. Does it accurately reflect your education
22 and experience?

23 A. It does.

24 MR. MCGUFFEY: I move admission of
25 Applicant's Exhibit F.

1 CHAIRMAN CATANACH: Any objection?

2 MR. BOHNHOFF: No objection.

3 CHAIRMAN CATANACH: Exhibit F will be
4 admitted.

5 (Applicant's Exhibit F admitted.)

6 Q (By Mr. McGuffey) Mr. Turnbough, could you
7 briefly discuss your education and experience in
8 relevant environmental matters.

9 A. I received a Ph.D. in 1985 from Texas Tech
10 University, combined fields of Systems Engineering
11 and Environmental Policy. Since that time I have
12 taught in several colleges, University settings and
13 became a full-time consultant working primarily in
14 initially Environmental Impact Statement projects,
15 later in permitting compliance projects. Over time
16 I sort of migrated into permitting and compliance
17 and other regulatory activities.

18 Currently, for example, I work for Nuclear
19 Waste Partners as they are the contracting entity
20 for the waste isolation pilot plant. I have worked
21 for them since about 2000. The same time I was
22 working in different iterations of efforts up at Los
23 Alamos National Laboratory. In both of those
24 capacities I provided regulatory interface with the
25 State of New Mexico, primarily the New Mexico

1 Environment Department.

2 Those interactions focus primarily on
3 waste management issues that involved hazardous
4 waste or mixed hazardous and radioactive waste.

5 At the same time I started working for the
6 Environmental Management Division of the U.S.
7 Department of Energy, report to headquarters to what
8 is called EM3, which is the -- basically the
9 operating officer of the Environmental Management
10 Division at DOE. That set of tasks focuses on
11 troubleshooting waste management problems throughout
12 the weapons complex at the different laboratories.
13 Idaho National Laboratory in particular.

14 Q. Thank you, Mr. Turnbough. Do you have --
15 also have experience in the oil and gas industry
16 generally?

17 A. I do. In 2001, I was a consultant to
18 Moncrief Oil Company which had a large project in
19 the Wind River basin in South Central Wyoming. It
20 was a very large gas recovery project. Interesting
21 because the wells were so deep, these wells were
22 35,000 feet deep. Probably the largest terrestrial
23 drilling rigs I have ever laid eyes on. That gas
24 stream was very large and had unusual problems
25 associated with it. The gas stream in that field

1 was 17 percent hydrogen sulfide. And I was retained
2 to deal with the consequences of having to take that
3 much H₂S out of the gas stream before it could go
4 into the treatment plan.

5 What that amounted to is that the plant
6 was generating 1,500 tons a day of sulphur they were
7 taking it out of the gas stream before they took it
8 to processing. And because of the volume of the
9 sulphur we literally converted a commodity into a
10 waste stream. We overran the market. So I was
11 commissioned to find a suitable site for the
12 temporary disposition of all of that sulphur.

13 Q. Thank you.

14 Did you also work on some oil and gas
15 remediation project work?

16 A. For ten years I worked in Eastern Kentucky
17 for several law firms that combined to support a
18 class action lawsuit against Ashland Oil.

19 And I was commissioned by Spivey &
20 Ainsworth out of Austin to estimate the cost of the
21 cleanup of the Martha oilfield which had been
22 operating since 1924. So...

23 Q. Have you done any work with the State Land
24 Commission?

25 A. In New Mexico?

1 Q. In New Mexico.

2 A. Yes. I was hired by the State Land
3 Commissioner to assist on the development of a set
4 of guidelines for resource protection with regard to
5 the leasing of State Land for mineral estate
6 production. And I was also retained to work on a
7 cleanup project, you know, in the northeastern part
8 of the State on some State land. You may have heard
9 of it, it was called the River of Tires. I was sort
10 of the unlucky one to go count the tires and figure
11 out where to put them. It took longer to count them
12 than it did everything else, but I also worked for
13 the State Land Office to monitor the Pit Rule
14 hearings which were going on in the latter phase.
15 The latter iteration of the Pit Rule and it was
16 finalized, finally finalized, I was working with the
17 State Land Office on that process.

18 I monitored the Pit Rule hearings and then
19 assisted counsel at the State Land Office with their
20 deliberations about how they would either support or
21 oppose different provisions.

22 Q. Thank you.

23 Have you done any work with the OCD on
24 Part 36 permitting?

25 A. I have. I coordinated the preparation of

1 an application for what was called the DNCS permit,
2 application. That application was the first full
3 service surface waste disposal facility that has
4 been approved under Rule 36.

5 Q. Who are you working as a consultant for on
6 that project?

7 A. I was working for Bryce Karger.

8 Q. And are you working for him as a
9 consultant on this project as well?

10 A. I am.

11 Q. And in your work as a consultant on both
12 of these projects -- well, I guess that was a bad
13 question. I think you may have already been
14 familiar with Part 36. How did you become familiar
15 with Part 36?

16 A. On a couple of things. One is that with
17 regard to Sundance Services, I was a consultant to
18 Sundance for about four and a half years, I think,
19 and what I was retained to do was kind of a twofold
20 exercise. One was to manage the preparation of an
21 application -- Rule 36 application on behalf of
22 Sundance, and then to work with them to maintain
23 compliance at their facility in their current
24 operation.

25 They were permitted under Rule 711 which

1 was superseded by Rule 36. What they were moving
2 toward at the time was a process to develop a new
3 site and at the same time continue to optimize the
4 utilization of diminishing capacity at this site, it
5 was an older site, so it was starting to fill up in
6 some of the areas that they were working. So, I
7 worked hand and glove with their site operations
8 people to maintain compliance during that phase.

9 Q. Let's talk a little bit about Rule 36.
10 Did you have a -- did you have a
11 connection with NMED during the time of Subtitle D
12 promulgations?

13 A. I did. I was retained as a consultant by
14 the New Mexico Environment Department to work with
15 them to achieve primacy over EPA Subtitle D solid
16 waste management regulations. We succeeded in the
17 transition so that the State of New Mexico would
18 have jurisdiction over its own solid waste
19 management permitting and components process. This
20 was the EPA's promulgation of the new subtitle
21 deregulation of '93. So in late '93 I was working
22 with the Environment Department to make that
23 transition.

24 Q. So upon that transition was the -- were
25 there some additional stringent requirements worked

1 into Part 36 that you're aware of?

2 A. I am. The person that I was retained by
3 was Deputy Secretary Ron Curry.

4 And Secretary Curry had received input
5 from several advocacy groups that believed that
6 EPA's rule was not protective enough of the
7 environment, but characterized most of the
8 communities in New Mexico, most of them are down in
9 the River Valleys and there was some concern about,
10 you know, having these facilities sited in close
11 proximity to groundwater applications.

12 So there was a series of advisory
13 committee groups, I participated in all of those and
14 then followed through with some discussions with
15 some of the folks that were going to be regulating
16 this program, that the Environment Department. They
17 ultimately determined that it would be useful to add
18 to this essentially performance standard that EPA
19 had promulgated, the notion that you would have
20 100 feet of separation between the bottom of the
21 disposal cell and the seasonal high elevation of the
22 nearest groundwater formation.

23 So that is where that came from is they
24 put that in there in that respect.

25 Q. Thank you.

1 Was there also some some more stringent
2 liner requirements or leak detection or leachate
3 connection requirements?

4 MR. BOHNHOFF: Mr. Catanach, I think we
5 are -- this witness is being asked to testify about
6 matters that really fall within the ambit of giving
7 legal testimony about the history and thus the
8 meaning of Part 36. I don't think he is qualified
9 to do that. I think we are also, to the extent
10 there is any discussion about the environment, we
11 are running afield -- running up against the
12 Commission's ruling yesterday, that we aren't going
13 to talk about an outside agency permitting.

14 MR. MCGUFFEY: I don't think that these
15 questions do relate to outside agency permitting,
16 they are actually about Part 36.

17 And it is -- and I believe this witness
18 has been qualified to discuss the requirements of
19 Part 36, which we can all agree, and he has been
20 qualified to compare those two requirements in
21 Subtitle D and Subtitle C has, in fact, been
22 happening periodically throughout this hearing and
23 introduction of witnesses.

24 CHAIRMAN CATANACH: I think I will allow
25 you to continue.

1 MR. McGUFFEY: Thank you.

2 Q (By Mr. McGuffey) Well, just one more
3 question on this subject.

4 Could you tell me what Subtitle C is meant
5 to control?

6 A. Subtitle C is the EPA hazardous waste
7 regulations.

8 Q. And does -- did the Part 36 double
9 composite liner, leak detection and leachate
10 collection, does that Part 36 requirement, is that
11 similar to the hazardous Subtitle C design?

12 A. It is identical.

13 Q. Thank you.

14 So in your experience do you consider
15 Part 36 of New Mexico rules to be strict and highly
16 protective?

17 A. I do. They -- they were a product of a
18 wholesale application of the solid waste management
19 regulations that we were talking about awhile ago.
20 All of that was migrated into Rule 36, including the
21 100-foot depth to water buffer zone requirement.

22 The big difference is, as we just
23 indicated there, was that instead of having an
24 ordinary Subtitle D single liner system, what OCD
25 believed was necessary because of potential

1 characteristically hazardous material that was
2 exempted from EPA's regulations, might be placed in
3 these kinds of landfills and so a more robust liner
4 system was indicated. And so, that double composite
5 liner with a leak detection system and a leachate
6 collection system was made as part of the Rule 36
7 requirement. It is one of the more robust liner
8 requirements I have seen in other States.

9 Q. And have you reviewed the application
10 subject to this proceeding for C.K. Disposal?

11 A. Excuse me, I have.

12 Q. In your opinion do you believe that it
13 meets the Part 36 requirements?

14 A. I do.

15 Q. There was some talk that other permits
16 from other agencies, there may be processes and
17 requirements related to those that relate to this
18 facility and many facilities have multiple
19 permitting requirements. Are you aware of whether
20 those -- those -- any required permits will be
21 sought by this Applicant?

22 A. I think the answer to your question is
23 yes, but the reason that it is, is that if you get a
24 permit under Rule 36 to operate a surface waste
25 management facility, there are activities that will

1 be regulated by other entities and so there is an
2 incremental process of stepping out to those other
3 regulatory agencies and demonstrating that you
4 either can or cannot comply with their requirements.
5 So, all of that takes place as a consequence of
6 starting with this permit. If you don't get this
7 permit, there is no reason to go talk to anybody
8 else. So it is just a matter of where you start and
9 then how you work your way through the
10 administrative process for the rest of the
11 permitting or the licensing process.

12 MR. BOHNHOFF: Mr. Catanach, the witness
13 didn't respond to the question that was asked and he
14 offered his own opinion about the interplay between
15 other permitting requirements and Part 36. That
16 clearly is testimony giving a legal interpretation
17 about this regulation and the witness is not
18 qualified to give that legal interpretation. And in
19 any event, it is irrelevant and outside the scope of
20 the hearing given the ruling that the Commission
21 made yesterday, so I would ask that it be struck.

22 MR. MCGUFFEY: I would disagree. I think
23 he did, in fact, answer the question with the first
24 word out of his mouth and then he went on to say why
25 he was answering the question that the permits will

1 be sought at the other agencies and he was
2 explaining why they would be sought in that order
3 and how it has worked in his experience.

4 If Mr. Bohnhoff wanted me to ask a
5 follow-up question, I could have and it would have
6 been to explain why.

7 MR. BROOKS: I would not have interpreted
8 anything he says as a legal opinion.

9 CHAIRMAN CATANACH: I will allow it.

10 COMMISSIONER PADILLA: As long as we are
11 not going down the road and talking what NMED is
12 going to require or any other agency, I tend to
13 agree with Mr. Bohnhoff on that point.

14 MR. MCGUFFEY: Yes, sir. I was actually
15 going to move on into the site.

16 Q (By Mr. McGuffey) Mr. Turnbough, you
17 mentioned that you had done some other work nearby
18 at some surrounding facilities. Is that correct?

19 A. That's correct.

20 Q. Were you -- are you familiar with the
21 geology at the proposed site?

22 A. I am.

23 Q. And is that -- did you have -- have you
24 done work for WCS, Waste Control Specialists?

25 A. I worked for WCS from 1996 to virtually

1 the present.

2 Q. Have you done work for Lea County
3 Landfill?

4 A. I have organized and coordinated the
5 permitting of Lea County Landfill.

6 Q. You mentioned you had done work for
7 Sundance, correct?

8 A. I have developed a permit application for
9 Sundance and maintained facility compliance under
10 that 7.11 operation.

11 Q. And have you worked for URENCO?

12 A. I have. I worked to URENCO, I went back
13 and looked at the time frame. I worked for URENCO
14 from 2004 to 2010 and we were involved with the
15 early site selection, site suitability analysis and
16 the data requirements for license application of the
17 NRC permitting requirements to the State of
18 New Mexico.

19 Q. Thank you.

20 So I assume you were involved in the
21 preparation of applications for different activities
22 at those facilities?

23 A. I participated as a consultant to
24 multidisciplinary teams that actually did the
25 preparation. They followed some of the frameworks

1 and some of the advice that I provided.

2 Q. Did these each, maybe save URENCO, involve
3 geological and hydrological reviews?

4 A. To some extent. But there was a more
5 important consideration upfront and that was the
6 potential impact of existing land uses on the site
7 that was being identified for URENCO's location.

8 Q. Did you supervise the drilling of borings
9 at the Lea County Landfill?

10 A. I did.

11 Q. Did you -- do you have an opinion on the
12 geological suitability of this site for the proposed
13 activity?

14 A. It is as good as the Lea County Regional
15 Landfill and as good or maybe better than the WCS
16 location. And as good and maybe better than the
17 URENCO location, just because of some minor
18 differences in that strata that we noticed in the
19 drilling.

20 Q. And does it meet the geological regulatory
21 site and criteria of Part 36?

22 A. It does.

23 Q. And do you think that this is a compatible
24 land use for this site?

25 A. I did, I still do. I think it makes good

1 sense to provide a surface waste management facility
2 in this area. It is a suitable site. It is
3 compatible land use to the solid waste disposal
4 facility that is immediately adjacent to it, to the
5 east. It is certainly not incompatible with Waste
6 Control Specialists' operations, which is a
7 hazardous waste treatment and disposal facility, a
8 toxic waste treatment and disposal facility, a
9 radioactive waste treatment and disposal facility;
10 probably one of the most suffocated multipurpose
11 operations in the country. It is not incompatible
12 with the existing Sundance site. It is not
13 incompatible with the existing URENCO operation.
14 And the reason I think that is that when we started
15 the discussion of the site, I asked the technical
16 team at URENCO and they were actually functioning
17 under the label NEF and they were transitioning from
18 LES to some extent. All of those names still apply
19 in one form or fashion.

20 But I asked the technical team if they had
21 any problems with any of the activities at Sundance,
22 any of the activities at WCS, any of the activities
23 of the Lea County Regional Landfill. Are there any
24 externalities that would cause a problem. So they
25 sat down and took a close look at each of those

1 facilities and there answer was an unequivocal no.

2 Q. Did you specifically point out that
3 Sundance may have H2S?

4 A. I told them that it was a hypothetical but
5 not a demonstrable risk. We had never seen any
6 problems with H2S at Sundance. And so -- but
7 because of the waste streams that came there and
8 because of the way they were handled, they needed to
9 evaluate that. I am not a chemist, so I am not
10 equipped to tell you yes or no, but you need to
11 decide, so they did.

12 Q. All right, Mr. Turnbough.

13 MR. MCGUFFEY: I think I will pass the
14 witness. Thank you.

15 CHAIRMAN CATANACH: Mr. Brooks, do you
16 have any questions?

17 MR. BROOKS: I have no questions for this
18 witness.

19 CHAIRMAN CATANACH: Mr. Bohnhoff?

20 MR. BOHNHOFF: Thank you.

21 MR. BOHNHOFF: Thank you.

22 CROSS-EXAMINATION

23 BY MR. BOHNHOFF:

24 Q. Dr. Turnbough, I won't go through your
25 entire resume. It is certainly lengthier than most

1 resumes I have ever seen, but let's look at Page 2.

2 Just for the record, this is C.K.

3 Exhibit F. The fourth paragraph down refers to the
4 work that you have been doing with C.K. fairly since
5 February of 2015, in connection with this
6 application.

7 A. That work was actually in conjunction with
8 a search for several sites. I did not select the
9 site. I was looking for sites down south near Jal,
10 still am.

11 Q. So if I understand you correctly, what you
12 are telling us is in February of 2015 you started to
13 do a site suitability selection study that
14 ultimately ended up with C.K. making a decision to
15 acquire the property south of LES, and then since
16 then you have been engaged to assist them with the
17 application that they subsequently filed?

18 A. I actually did not recommend this site.

19 Q. Understood. But it was as a result of the
20 site selection study that you were involved in that
21 C.K. chose this site and bought it?

22 A. The process looking for a site led to this
23 site and it is more of a -- I will stop and you can
24 ask me a question.

25 MR. McGUFFEY: I think the witness

1 actually testified that February, 2015 paragraph in
2 here was relating to a different site selection
3 search and he was looking for a different site in a
4 different area of New Mexico.

5 MR. BOHNHOFF: Is that an objection?

6 MR. MCGUFFEY: I am objecting to the form
7 of your question in that it is mischaracterizing the
8 testimony of this witness, also just trying to
9 clarify.

10 Q. (By Mr. Bohnhoff) Turn to Page 4 down
11 towards the bottom of the page. In October of 2010
12 you were retained by the Lea County Economic
13 Development Corporation to do some work?

14 A. Yes, sir.

15 Q. Then if we turn the page, Page 5, bottom
16 of the page, in August of 2007 you were retained
17 again by Lea County Economic Development Corporation
18 to do some suitability studies for construction and
19 operation of a uranium enrichment facility. Did
20 that work ultimately lead to LES coming to Eunice?

21 A. I think that the date on that entry is
22 probably wrong. I think it is too late in the
23 timeline to be correct. I can sort that out and get
24 back to you on that but...

25 Q. Whether the date has to be changed or not,

1 was that work that ultimately leads to LES building
2 its plant outside of Eunice?

3 A. It's certainly part of that process for
4 the selection of the site that they ultimately
5 chose. We recommended a site that was actually one
6 section to the east that was immediately adjacent to
7 the State line and we had several problems with
8 clearing out the mineral estate. We had 32 separate
9 mineral estate holders who were not willing to give
10 up their claim on those rights. So we ultimately
11 sought assistance from the New Mexico State Land
12 Office to provide State land adjacent and to the
13 west of that and that is where they ended up coming
14 to make their facility located.

15 And the other facility in that entry is a
16 company called International Isotopes. And what
17 they were going to do and may yet is de-convert the
18 depleted uranium hexafluoride that is left over
19 after the uranium enrichment process and they were
20 going to defluorinate the UF6 and then sell it as an
21 industrial commodity and that potential site that I
22 did for the Lea County Economic Development
23 Corporation is about 12 miles west of Hobbs out near
24 the three electric power generating stations and
25 just north of the highway.

1 Q. Turn to Page 6. At the top of the page
2 there is an entry reflecting the work that you were
3 doing for Sundance, right?

4 A. Yes, sir.

5 Q. And you previously described that?

6 A. That is correct.

7 Q. When did that work or that engagement by
8 Sundance end?

9 A. End?

10 Q. Yes.

11 A. Oh.

12 Q. You told us you were actually doing two
13 projects.

14 A. About 2011.

15 Q. You were managing the preparation of an
16 application for a new facility and you also worked
17 to maintain compliance of the old facility?

18 A. Yes.

19 Q. And both of those engagements ended in
20 2011?

21 A. The preparation of the application was
22 kind of an incremental effort during that time and
23 so it was spread out over a longer period of time
24 than most permit applications would normally take.

25 But it was just a resource management

1 allocation issue. How much money they were
2 interested in spending at the time.

3 The rest of it was just an attempt to
4 manage the compliance of the operation which was
5 permitted under a superseded rule now, and there was
6 expectations that certain operational requirements
7 under Rule 36 would be maintained. So we were just
8 trying to optimize the use of the facility.

9 Q. Companies hire you to give advice about
10 environmental permitting and compliance?

11 A. Yes, sir.

12 Q. In addition to giving them advice, you
13 assist them in making contacts with government
14 agencies, correct?

15 A. Yes, sir.

16 Q. And that is certainly part of the services
17 that you provided C.K. in connection with this
18 application?

19 A. In some limited respect, yes.

20 Q. You have had communications with the Oil
21 Conservation Division in order to advance the
22 application?

23 A. I've had communications with them to get
24 clarification on issues that were raised in the
25 preparation of the application.

1 Q. Here is a relatively thin notebook on your
2 right there. Those are -- that is a notebook
3 containing C.K.'s exhibits, turn to Tab S, please.
4 S as in Samuel.

5 Do you recognize that as a copy of
6 September 1, 2016 e-mail from Mr. Griswold that was
7 copied to you?

8 A. Yes, I do.

9 Q. You apparently had some involvement in the
10 discussions that led to submission of the hydrogen
11 sulfide modeling?

12 A. Yes.

13 Q. You testified at the end of your direct
14 exam that back when you were working with URENCO you
15 asked them whether -- you asked the URENCO tech team
16 whether they had any problems with Sundance as a
17 neighbor. Who did you talk to?

18 A. I talked to Rod Critch.

19 Q. Who is Rod Critch?

20 A. Rod Critch was the managing technical team
21 for the licensing application. But I also -- I
22 reported directly to Jim Ferland, who at the time
23 was president of LES. I worked directly for him and
24 I was giving him advice that we needed to be sure
25 that the adjacent land uses didn't have any negative

1 externalities that would interfere with either the
2 operation of the facility or compound the attempt to
3 monitor the facility for things that the NRC would
4 require them to do.

5 Q. You told Mr. Critch that you thought
6 hydrogen sulfide emissions at the Sundance facility
7 were hypothetical but not a demonstrable risk?

8 A. That is correct.

9 Q. And he took -- you understand he took that
10 information and made whatever decisions he had to
11 make?

12 A. I think he delegated work to members of
13 his multidisciplinary team to evaluate the potential
14 impact of that at Sundance, the potential impact of
15 the hazardous waste treatment process at WCS, the
16 potential for methane gas release at the Lea County
17 Regional Landfill. All of those externalities were
18 evaluated by that team to determine if they would
19 have some impact on the operation of the monitoring
20 of the facility at URENCO.

21 Q. You gave the information but you weren't
22 involved in the team's evaluation, correct?

23 A. I was not.

24 Q. You don't know what considerations entered
25 into their decision-making on those sites?

1 A. I know from follow-up discussions that
2 they evaluated the potential impacts of each of the
3 issues that I had raised and they had actually
4 looked at more. For example, at the Lea County
5 Regional Landfill I was more concerned about the
6 potential for methane releases. They expanded their
7 analysis to include potential for negative affects
8 of dust that would blow off of that facility if the
9 dust control measures were not adequate. They
10 focused mainly on PM10 particle sizes but not PMT45
11 because these were combustion-related particles. I
12 remember hearing that conversation.

13 Q. Let me try to be specific. You weren't
14 privy to the discussions and deliberations that the
15 team had with respect to the question about hydrogen
16 sulfide emissions from Sundance?

17 A. I was not.

18 Q. Now you have the opinion that C.K.'s
19 application would represent a compatible land use
20 and you made the point that you don't believe it
21 would be incompatible with URENCO's plan. In
22 performing your site analysis and making this
23 suitability or this compatibility determination you
24 didn't analyze the impact of traffic coming in and
25 out of the C.K. facility, did you?

1 A. I didn't analyze it but I was cognizant of
2 the fact that traffic would be an issue that would
3 have to be addressed if this permit could be
4 obtained.

5 That is just a highway that has a current
6 design and a current activity level with the
7 application of an analysis by a competent traffic
8 engineer and consultation with the Department of
9 Transportation. There would be a range of
10 alternatives discussed as is typically the case in
11 this kind of work and there would be a requirement
12 to probably modify that roadway to make sure that
13 ingress and egress was safely managed.

14 Q. You aren't a traffic engineer, are you?

15 A. I am not, but I've managed several
16 multidisciplinary teams that use one.

17 Q. You also didn't perform any kind of a
18 technical analysis about the air contaminants that
19 would be emitted from the cc facility?

20 A. I did not, I did however suggest that the
21 screen model be run in order to address concerns
22 that had been expressed and comments that had been
23 filed by URENCO.

24 It was a surprise to me to see that there
25 was some concern expressed about H2S in those

1 comments when there had not been any concern
2 expressed to me about H2S with regard to the
3 original decision to move in next door to Sundance.

4 MR. BOHNHOFF: No further questions.

5 CHAIRMAN CATANACH: Commissioners?

6 COMMISSIONER PADILLA: Just a couple for
7 you, Dr. Turnbough.

8 EXAMINATION

9 BY COMMISSIONER PADILLA:

10 Q. You said early on in your direct testimony
11 that this site was as good or maybe better than
12 URENCO. You're obviously -- I am assuming you're
13 talking about specific suitability for each entity's
14 purpose in that description?

15 A. If you were to back up to pre-URENCO time
16 and look at that section of land and look at some of
17 the site specific information that was developed on
18 the shallow substrata and you will find evidence in
19 that section and in some of the work that URENCO did
20 that there is evidence of these braided stream
21 channels in the geomorphic past of that area that
22 are gravelly and have sandstone characteristics
23 which is a little different from some of the other
24 characteristics that we are talking about.

25 On the other side of the highway, the

1 highway didn't make any difference, but it just
2 happens to be that in borings that we did at the Lea
3 County Regional Landfill, which is immediately
4 adjacent to this C.K. site, we found continuous
5 Chinle clay stone for a depth of nearly 600 feet,
6 598 feet before we got to evidence of the Santa Rosa
7 formation.

8 If you jump over north and look at the
9 borings we did on the WCS facility to characterize
10 that same dimension, we encountered at about 200,
11 225 feet that kind of gravelly matrix that is
12 characteristic over at the URENCO property. So you
13 have a less contiguous Chinle clay stone formation
14 on -- as you move north a little bit as then you do
15 on the south side of the road. So that was -- and
16 for the purpose of a disposal site if I had been
17 given the four squares to pick a disposal site from,
18 I would have picked Lea County and I would have
19 picked C.K. but I would have said, you know, unless
20 you just need that zone for monitoring purposes, it
21 is not as compact and contiguous clay stone over
22 there as it is on the south side. That is all.

23 Q. Then with relation to site suitability you
24 used another, I guess, qualified term, not
25 incompatible. You said it is not incompatible with

1 the purpose in mind. I am just wondering is that on
2 a holistic basis looking at everything else around
3 it or what are you basing that statement on?

4 A. Well, there is risk associated with --
5 there is different kinds of risk associated with the
6 operation of all of the facilities that are already
7 there. And there is the same kind of risk that you
8 have to assess for the permitting of a proposed
9 surface waste management facility as well.

10 At WCS you are treating hazardous and
11 toxic chemicals and sometimes the hazardous
12 chemicals are mixed with radioactive material, and
13 so, there is a sealed environment that is required
14 for that treatment process to safely occur in the
15 building to stabilize the waste and then be able to
16 safely transport it out of the building to their
17 disposal cells.

18 They have several different kinds of waste
19 teams over there. That is one kind of risk. Over
20 at the Lea County facility, you have got a much less
21 hazardous by definition, waste stream, it is
22 ordinary solid waste and its primary characteristics
23 are that because not everybody has or uses a garbage
24 disposal the waste is fairly wet. The adjustable
25 waste stream is what eventually would generate the

1 methane and if you get an occasional rainfall on it,
2 it infiltrates the waste pile and you increase the
3 amount of liquid in there, you increase this whole
4 process. So confining that waste and the leachate
5 that it generates is one type of problem.

6 WCS, to finish an incomplete thought on
7 that one, they have a very robust liner system. It
8 is the most robust liner system I've ever seen
9 anywhere. It is seven feet of everything from
10 concrete to double composite liners.

11 And then you have the belt and suspenders
12 approach for both facilities with the Chinle clay
13 stone beneath that.

14 URENCO enriches uranium. So they take
15 uranium at one concentration, they enrich it up to
16 another concentration. Every bit of that has to
17 take place in a sealed environment. So keeping the
18 Genie inside the bottle is what they do and they do
19 it well. The risk is that they have a problem.
20 With the C.K. facility you have kind of like the Lea
21 County Regional Landfill, you have a very
22 unremarkable waste stream. 98 percent of oil and
23 gas waste that goes to facilities like this is
24 either drilling mud or produced water.

25 And neither one of them have very

1 remarkable characteristics. In fact, when EPA
2 exempted exploration of the production waste from
3 the hazardous waste regulations, they -- they
4 specifically stated that these are high volume waste
5 with low concentrations of potentially hazardous
6 material.

7 So, this is kind of a -- it is a necessary
8 disposal facility like the municipal solid waste
9 facility, but it has got a pretty generic waste
10 stream.

11 Q. So would it be safe to say that you think
12 this is compatible with the other existing
13 facilities in the area?

14 A. From a general land use perspective, and I
15 do a lot of land use analysis on things that I won't
16 bore you with, but I do a lot of contested case
17 hearings on the placement of large electric
18 transmission lines. So if you look at land use
19 characteristics on 40 different criteria, everything
20 from purely ecological issues all the way down to
21 land use issues, this -- this area is a kind of an
22 unremarkable area in those respects. There is
23 not -- there is not really a population that is very
24 close, there is not an ecology problem, there is
25 significant depth to groundwater in most cases. All

1 of those characteristics make it seem like a pretty
2 good place to do this kind of work. It is kind of
3 an odd situation for me to be sitting here because
4 I've worked for everybody in the neighborhood,
5 including the ones that want to be in the
6 neighborhood, and it is a little awkward because
7 they don't always see eye-to-eye on everything, but
8 they are all doing their job.

9 Q. Moving on to the Sundance facility and I
10 realize that is a 7.11 and we are talking Rule 36
11 here, but have you ever seen or heard of any H2S
12 issues at that facility.

13 A. I have not.

14 Q. At all?

15 A. No.

16 Q. Can you just tell us in a nutshell what
17 their H2S handling processes are if you are familiar
18 with them?

19 A. Their approach is based on an assumption
20 that they are not going to see much in the way of
21 high concentrations of H2S. And historically
22 because they have been there so long they have a
23 history that shows that that assumption has been
24 correct.

25 And, they have sensors and they have a

1 plant manager that I actually had a part in the
2 decision of selecting, a man named Joe Correo, a
3 very good housekeeper. He is a former roustabout
4 for Texaco and pumper, and just had worked his way
5 up through the management tree over there on that
6 kind of work.

7 But Mr. Correo probably does a better job
8 with the capacity limits that he has got to deal
9 with right now than anybody I have worked with.

10 But he is not -- I don't think he has got
11 an anxiety about hydrogen sulfide. I think his
12 concerns are more about where you put stuff in the
13 meantime. H2S has not showed up in those waste
14 stream.

15 Q. It is not a primary concern?

16 A. It is not. I will tell you if you break
17 down the waste stream that comes out of the ENP part
18 of this process, the place you are most likely to
19 see H2S emissions is when you -- a tanker gets a
20 call to go pick up sludge that comes out of the
21 bottom of a tank battery. And most operators,
22 because they care about what happens to their
23 drivers and they want to be safe, they will
24 anticipate that there will be some H2S in those
25 sludges. And it is not uncommon for them to treat

1 the tank with calcium hypochlorite in advance, and
2 so when they put that -- that sludge and liquid from
3 the tank battery in their tanker and they bounce it
4 across bumpier and bumpier New Mexico roads in the
5 southeastern part of the State, it is kind of a
6 mobile treatment process, if you want to know the
7 truth. So you are not going -- you are not likely
8 to see much of H₂S in a tanker that comes to unload
9 at a place like Sundance, CRI, or the proposed C.K.
10 facility.

11 COMMISSIONER PADILLA: That's all I have.
12 Thank you, Dr. Turnbough.

13 EXAMINATION

14 BY COMMISSIONER BALCH:

15 Q. Do they have any monitoring at Sundance
16 for H₂S?

17 A. As I recall they have H₂S monitors.

18 Q. Following up on Commissioner Padilla's
19 question, you are not aware of any triggered alarms
20 or alerts or neighbors having to go away in the
21 middle of the night?

22 A. Not ever in my recollection.

23 Q. In a relative scale, Sundance versus
24 C.K.'s proposed facility, which would be a greater
25 H₂S hazard?

1 A. Potentially Sundance could because it
2 doesn't have the benefit of these closed treatment
3 systems on the front end which would work their way
4 through any potential H2S.

5 COMMISSIONER BALCH: Thank you.

6 EXAMINATION

7 BY CHAIRMAN CATANACH:

8 Q. Mr. Turnbough, was I understanding
9 correctly, are you the one that made the
10 recommendation as to run the Screen 3 model?

11 A. The conversation came up and there were
12 comments that were submitted early on and after the
13 notice process started about concerns about H2S.
14 And so the -- I think the consensus technically
15 before I got involved in that part of the discussion
16 was what kind of screening model to run If you're
17 going to run it.

18 And I was asked the question would you do
19 that and I said, hell, yes, you know, at least get
20 that -- that first rough cut at it and get a look at
21 it and if you have got something that looks unusual
22 in there then, deal with it.

23 But they did and they didn't and, you
24 know, the discussion will move on, you know, if
25 there is the assumption that this permit was issued,

1 I am sure that discussion and the total quantity of
2 VOCs that could be emitted from this facility would
3 be held elsewhere then.

4 Q. Do you believe that a more sophisticated
5 model might be required to -- in order to, you know,
6 ease any concerns that may come up?

7 A. I don't think it would tell you -- given
8 what I think about the waste that is going to be
9 accepted there based on the waste I know is accepted
10 at Sundance, I don't think you're going to see
11 anything come in there that is going make a
12 difference between this initial screening effort and
13 something that is much more sophisticated.

14 Q. We have had some discussions about --
15 without getting into any specifics or any details,
16 we have had some discussions on what additional
17 permits might be required from C.K. And I
18 understand that, of course, possibly the Environment
19 Department would be another possible permit that you
20 might be required to get?

21 A. I think there would be a couple of
22 evaluations that would be required over there to
23 determine whether or not additional permitting was
24 required. And some of that just depends on their
25 assessment of, for example, the emissions of VOCs,

1 and whether or not it reaches a threshold that
2 requires a permit and then a management plan, things
3 like that.

4 Q. So there is no guarantee that you would be
5 required to get a permit at ED, it just depends on
6 the numbers that you give them?

7 A. That would be a function of the
8 information they ask for and the form they ask for
9 it in. That is a nice sentence. And their
10 determination on -- on their threshold levels
11 whether or not that would require a permit for a new
12 source, for example.

13 Q. Besides the Environment Department, we
14 have had some discussion about the Department of
15 Transportation, and obviously you would be required
16 to talk to them about the situation with the
17 highway?

18 A. C.K. would be required to discuss ingress
19 and egress with the Department of Transportation.
20 And that is especially true given the fact that you
21 have traffic that goes to URENCO and you have
22 traffic that goes to WCS and you have traffic that
23 intermittently goes to the Lea County Regional
24 Landfill. There is a big difference between a
25 traffic pattern or not a pattern, but just a

1 frequency and then the intervals for an oil and gas
2 E&P site is that because a bunch of your waste
3 stream is going to be coming from produced water and
4 drilling muds that are generated by new well
5 construction. Those are 24/7, that happens around
6 the clock. Drillers don't stop because it gets
7 dark.

8 In the Permian basin you produce about
9 eight gallons of salty water -- eight barrels of
10 salty water for every barrel of oil you produce. So
11 that water is going to be steadily produced. And so
12 when it is time to collect it, they collect it and
13 bring it to a facility that can deal with it. So
14 you are going to end up with traffic not having a
15 lunch hour rush, a morning go to work rush and a
16 evening going home rush, you are going to have just
17 a steady drumbeat, a truck every now and then show
18 up at 2:00 in the morning or whenever they need to
19 make the run. And if it is a closed loop system on
20 a drilling rig, that is going to be about every
21 seven or eight hours from that rig depending on
22 whether it is going 7,000 or 14,000 feet.

23 Q. The DOT, would that necessarily be a
24 permit or would that be an agreement with DOT on how
25 to redo the highway?

1 A. I don't know exactly what that arrangement
2 would look like, but it would be it -- would be
3 incomprehensible to me that a client that was going
4 to develop a facility like this that had to plan
5 safe ingress and safe egress from a facility that is
6 already adjacent to a facility that is already
7 dealing with that, the Lea County Regional Landfill
8 primarily, that you would not have all of that
9 studied by traffic engineer and then have a proposed
10 design for making that road probably just wider
11 acceleration, deceleration, safe left turn lanes,
12 the things that you have to do to keep people safe.
13 I mean safety is the biggest word in this business.

14 Oil patches -- I have been -- I am an oil
15 patch trash and proud of it kind of a guy. I was a
16 summer roustabout replacement from the time I was a
17 senior in high school until I got out of college,
18 and safety was the most important vocabulary word I
19 learned in that business.

20 Q. Just one more.

21 What other additional permits do you
22 anticipate that you may have to seek out?

23 A. I think you would have to get a storm
24 water management permit.

25 Q. Is that it, do you think?

1 A. It might be it.

2 CHAIRMAN CATANACH: Okay. I have no other
3 questions. Anything else of this witness?

4 MR. MCGUFFEY: I don't have anything else.

5 CHAIRMAN CATANACH: Okay. This witness
6 may be excused.

7 CHAIRMAN CATANACH: So you're next witness
8 is Dr. Richardson?

9 MR. WOODWARD: Yes, sir.

10 CHAIRMAN CATANACH: He is scheduled to go
11 on at 2:00?

12 MR. WOODWARD: Yes, sir.

13 CHAIRMAN CATANACH: And that is your last
14 witness?

15 MR. WOODWARD: Yes, sir.

16 CHAIRMAN CATANACH: Would you be able to
17 put on a witness that would be a short witness?

18 MR. BROOKS: I was just going to say that
19 we could present our stipulation and call Jim
20 very -- our direct examination of Mr. Griswold would
21 be very brief. Now, I do not know, I think there
22 may be some desire on the part of the parties to
23 cross-examine him on matters that would not be
24 covered by direct, which is technically not
25 permitted, but we have no objection to whatever you

1 want to do. Of course, it is up to the Commission.

2 CHAIRMAN CATANACH: What is your direct
3 time on Mr. Griswold?

4 MR. BROOKS: Well, I said -- I think I
5 said 20 minutes in my prehearing statement. The
6 stipulations have accomplished a lot of what I
7 intended to accomplish, I think it would be less
8 than that.

9 CHAIRMAN CATANACH: Is there any objection
10 to Mr. Brooks putting on his witness at this time?

11 MR. BOHNHOFF: No, I think it would be
12 appropriate.

13 MR. WOODWARD: We agree.

14 CHAIRMAN CATANACH: Let's do that.

15 MR. BROOKS: Okay. I would like to first
16 present the stipulation, Mr. Chairman, and
17 Commissioners. I have marked this stipulation as
18 OCD Exhibit Number 5. I am probably not going to
19 present Numbers 1 through 4 because I think they are
20 already in evidence as Applicant's exhibits. But I
21 have here copies -- I made a measurable change on
22 here because when I changed it yesterday. In light
23 of Mr. Bohnhoff's objections, I did change Number 2
24 to correspond to what he had -- to an objection he
25 had raised, but I did not -- I neglected to delete

1 Stipulation Number 1 which was not agreed to, so I
2 deleted that manually on this document.

3 I believe that all of the other
4 stipulations here are acceptable to all counsel and
5 have been accepted by all counsel, so I will allow
6 them to address it. If they have any concerns they
7 may want to go through it briefly and be sure that
8 this is actually what I presented to them before.

9 CHAIRMAN CATANACH: Counsel, do you need
10 time to review that document?

11 MR. WOODWARD: If I could have a few
12 minutes to review, I would ask that.

13 CHAIRMAN CATANACH: Let's take five
14 minutes.

15 (A recess was taken.)

16 CHAIRMAN CATANACH: Let's go back on the
17 record, and, Mr. Brooks, I turn it over to you.

18 MR. BROOKS: Thank you. I offer Exhibit
19 Number 5 as a stipulation that has been agreed to by
20 all counsel or a set of 19 stipulations, or actually
21 18, because Number 1 was deleted -- that had been
22 agreed to by all counsel in this case and I call on
23 counsel to confirm their agreement or state
24 otherwise if they have any disagreements.

25 CHAIRMAN CATANACH: Mr. Woodward?

1 MR. WOODWARD: Counsel for C.K. Disposal
2 agrees to the stipulations listed in Exhibit
3 Number 5.

4 CHAIRMAN CATANACH: Mr. Bohnhoff?

5 MR. BOHNHOFF: With the understanding that
6 Numbered Paragraph Number 1 is deleted from the
7 stipulations, LES can agree to the stipulations.

8 CHAIRMAN CATANACH: Okay.

9 MR. BROOKS: Okay. At this time I will
10 call Jim Griswold.

11 THE WITNESS: Jim Griswold. First name
12 J-I-M, G-R-I-S-W-O-L-D.

13 (Whereupon, the witness was previously
14 sworn.)

15 JIM GRISWOLD,
16 after having been first duly sworn under oath,
17 was questioned and testified as follows:

18 DIRECT EXAMINATION

19 BY MR. BROOKS:

20 Q. Okay. I believe the court reporter asked
21 you, but I couldn't hear for sure. Mr. Griswold,
22 were you sworn when the witnesses were sworn
23 yesterday?

24 A. Yes, sir.

25 Q. Very good. Thank you.

1 Mr. Griswold, by whom are you employed?

2 A. The Oil Conservation Division.

3 Q. In what capacity?

4 A. Currently I am the Environmental Bureau
5 Chief.

6 Q. Okay. And how long have you been the
7 Environmental Bureau Chief?

8 A. Approximately April of 2014.

9 Q. And when were you -- how long have you
10 been employed by the Division?

11 A. Oh, would have been about April of 2008.

12 Q. Very good.

13 So you were with the Division for a
14 significant period of time before you became
15 Environmental Bureau Chief?

16 A. Yes, sir.

17 Q. But did you work -- did you work in the
18 Environmental Bureau during that period of time?

19 A. Yes. The entirety, from time that I was
20 there.

21 Q. Are you familiar with the permitting
22 practices that are followed by the Environmental
23 Bureau of the Oil Conservation Division?

24 A. Yes, I am.

25 Q. Okay. Could you explain the practice of

1 encouraging or permitting applicants to file draft
2 permit applications prior to formal filing as it
3 exists or did exist prior to recent amendments to
4 the permitting rules in the Environmental Bureau?

5 A. Certainly. As you can see by looking at
6 the applications, they are extensive.

7 Q. Yes, sir.

8 A. And quite complex. They are developed by
9 professional engineering firms. So, in the prior
10 permitting process in the prior 36 that was modified
11 effective June 30 of last year, there is a limited
12 amount of time given to the Division to go through
13 one of these permits. And, there will almost
14 invariably be errors and omissions, lack of clarity
15 kind of things, and so if you were to follow that
16 time as laid out in the regs, many times it would
17 leave the Division no choice but to deny an
18 application, even though potentially it was a viable
19 application.

20 So, we have as policy for several years
21 encouraged those that are interested in permitting
22 of waste management facilities to approach the
23 Division and begin a discussion. And to consider
24 that application draft at that point to allow for
25 this back and forth to get an application to a point

1 where it is likely approvable before they submit it
2 as a formal application.

3 Q. All right. At what point in time did you
4 receive the application that has been identified as
5 Exhibit AA for the Applicant for the proposed C.K.
6 facility?

7 A. We received this information in
8 approximately November of 2015.

9 Q. Okay. Now at that time had the
10 application been signed by the owner?

11 A. No, it had not.

12 Q. Okay. I call your attention to what has
13 been -- I believe has been admitted as Applicant's
14 Exhibit J. Do you have the Applicant's
15 Exhibit folder there, Mr. Griswold? I ask you to
16 look at Applicant's Exhibit J. And is that the
17 signature page for the owner that was submitted for
18 this application?

19 A. Yes. But it was submitted to the Division
20 with Mr. Karger's signature in May of 2016.

21 Q. Before that the application had not been
22 signed by the owner, right?

23 A. Correct. Under the rule, the application
24 really starts with what we refer to as a Form C-137
25 and then the bulk of what you see is actually the

1 application or attachments to that form.

2 Q. Okay. The next question I was going to
3 ask you was does Rule 36 specifically require that
4 the application include signature of the owner?

5 A. Of the Applicant, yes.

6 Q. Okay. So without that signature would it
7 have been administratively complete?

8 A. No, sir.

9 Q. And you would not have determined that it
10 would be administratively complete if it wasn't?

11 A. That's correct.

12 Q. I believe there is only one other question
13 I need to ask you. Is there anything you received
14 from the Applicant after the determination of
15 administrative completeness other than -- I am
16 talking about written submissions -- I know there
17 were some conversations, but by written submissions
18 other than the that Exhibit U which is the, I
19 believe is the hydrogen sulfide plan?

20 A. I don't recall any other additional
21 submittals other than that.

22 Q. And the application?

23 A. And the application.

24 Q. Okay. I believe that's all I have to ask
25 you, Mr. Griswold. And I do not know what policy

1 the Commission will adopt in terms of the scope of
2 cross-examination.

3 MR. BROOKS: I will pass the witness.

4 CHAIRMAN CATANACH: Mr. Woodward?

5 MR. WOODWARD: Yes, sir, I do have a few
6 questions.

7 CROSS-EXAMINATION

8 BY MR. WOODWARD:

9 Q. Mr. Griswold, what is your educational
10 experience?

11 A. Actually I went to school down at New
12 Mexico Tech in Socorro, got my Bachelor of Science
13 from there.

14 Q. And what did you get your degree in?

15 A. Actually my degree is in general science.
16 I was pursuing a physics degree, but had a job
17 waiting for me in the oil patch, actually, as a
18 geophysical logger, so I had enough hours to grab a
19 degree and off I went.

20 Q. What is your professional experience?

21 A. For the last, close to 30 years it has
22 actually been in environmental sciences.

23 Q. Any particular specialty?

24 A. Actually the characterization and cleanup
25 of spills.

1 Q. That requires some knowledge of geology
2 and hydrogeology?

3 A. It requires broad knowledge.

4 Q. Broad knowledge?

5 A. Including geology and hydrogeology.

6 Q. Do you believe that the application of
7 C.K. Disposal satisfies the requirements of Part 36
8 of the OCD regulations?

9 A. Yes, I do.

10 Q. Do you believe that the draft permit
11 conditions recommended and the draft permit attached
12 to the tentative decision are established
13 operations, design, construction to be protective of
14 human health and safety?

15 A. Yes, I do.

16 Q. And the same question, do you believe that
17 the operation, design and construction in
18 conjunction with the draft permit conditions would
19 be protective of fresh water?

20 A. Yes.

21 Q. Did you work with Dr. Richardson in
22 reviewing the C.K. Disposal application?

23 A. You would have to define work with him.

24 Q. Well, did you communicate with
25 Dr. Richardson?

1 A. Yes, I did.

2 Q. And did he communicate to you the -- his
3 opinions regarding the application?

4 A. Yes, he did.

5 Q. Do you feel that the application has been
6 subjected to a rigorous engineering review?

7 A. Based on the qualifications of
8 Dr. Richardson, yes, I do.

9 Q. Would you refer to Applicant's Exhibit G,
10 please. Do you recognize this document?

11 A. Yes, I do.

12 Q. What is it?

13 A. It is actually a timeline that I put
14 together with memorable dates throughout this
15 particular application processing.

16 MR. WOODWARD: I move admission of
17 Exhibit G.

18 CHAIRMAN CATANACH: Any objection?

19 MR. BOHNHOFF: No objection.

20 CHAIRMAN CATANACH: Exhibit G will be
21 admitted.

22 (Exhibit G admitted.)

23 MR. BROOKS: No objection.

24 Q. (By Mr. Woodward) Does this timeline that
25 you prepared accurately reflect the process by which

1 the C.K. Disposal application went through with the
2 OCD?

3 A. Up until the 7th of November of last year,
4 yes, it does.

5 Q. Would you refer to Attachment H, please.
6 Do you recognize this communication?

7 A. Yes, I do. It is a letter from
8 Dr. Richardson to myself.

9 Q. And I believe this is already part of the
10 stipulations so it's been admitted. But what does
11 this letter reflect?

12 A. Dr. Richardson beginning that process --
13 well, actually early in that process of reviewing
14 the application says that he has it and that he is
15 asking questions of the Applicant's engineering firm
16 for clarification of certain items.

17 Q. Would you consider this to be part of the
18 administrative review?

19 A. Yes.

20 Q. To ensure that the application is complete
21 and has all the necessary information?

22 A. Well, in terms of making the determination
23 of administrative completeness, these are technical
24 questions and, no, it would not necessarily be
25 reflective of data administrative review or

1 administrative completeness review.

2 Q. It was part of the review of the draft
3 application?

4 A. Right.

5 Q. Let's go to Attachment P.

6 A. Exhibit P.

7 Q. Exhibit P, yes.

8 Are you familiar with this letter?

9 A. Yes, I am.

10 Q. And what is this letter?

11 A. This is a letter from Dr. Richardson to
12 myself synthesizing his review of the application
13 once it was complete or his review was complete.

14 Q. Now, I notice this letter is stamped
15 draft?

16 A. Yes, sir.

17 Q. Did you receive receive a final letter
18 from Dr. Richardson?

19 A. No, I did not. This was it.

20 MR. BROOKS: What exhibit are you talking
21 about?

22 MR. WOODWARD: Exhibit P?

23 MR. BROOKS: P. I thought you said T.

24 Q. (By Mr. Woodward) Did you rely on this
25 letter in making a determination of tentative

1 decision?

2 A. Yes, I did.

3 Q. If you flip over to Exhibit Q, please.

4 A. (Witness complies.)

5 Q. Do you recognize this document?

6 A. Yes. It is an e-mail from myself to
7 Dr. Richardson. I actually got that backwards. It
8 was actually from Clint to me.

9 Q. I thought my notes were wrong.

10 Did you have any verbal communications
11 with Dr. Richardson regarding H2S modeling?

12 A. Yes, we did.

13 Q. Did those occur before or after this
14 e-mail?

15 A. They would have occurred before the
16 e-mail.

17 Q. And did you rely on this e-mail in your
18 review of the C.K. Disposal application?

19 A. In part. I am not unfamiliar with air
20 quality modeling myself.

21 Q. Did you have any input as to the type of
22 model to run to calculate the H2S concentrations
23 from the C.K. Disposal facility?

24 A. Yes, I did.

25 Q. Did you recommend the Screen 3 model?

1 A. Yes, I did.

2 Q. Are you confident in the results that you
3 get from a Screen 3 model?

4 A. In my experience, yes.

5 Q. Did you review the results submitted in
6 the report prepared for C.K. Disposal reporting
7 results of the Screen 3 modeling?

8 A. Yes, I did along with Dr. Richardson.

9 Q. Did you agree with the assumptions that
10 were put into the model?

11 A. After brief review, yes, I did.

12 Q. Now there was an e-mail -- let's look at
13 S.

14 Do you recognize the message in Exhibit S?

15 A. Yes, I do.

16 Q. And what is that?

17 A. It is an e-mail from myself to the
18 applicant, Mr. Karger.

19 Q. Were you here earlier when there were
20 questions regarding the modeling of emissions from
21 evaporation ponds?

22 A. Yes, I was.

23 Q. And in this e-mail you were suggesting
24 that the H₂S modeling emissions be from the
25 evaporation ponds, did you not?

1 A. Yes.

2 Q. Are you in disagreement with the
3 consultant's decision to model from the load-out
4 point versus the evaporation ponds?

5 A. No. Actually I appreciated his efforts in
6 that regard.

7 Q. Do you think that it was more conservative
8 to model from the load-out point rather than from
9 the evaporation ponds?

10 A. Well, they looked at the evaporation ponds
11 as well in terms of potential source of H₂S, but
12 what I appreciated was that he looked at the
13 facility as a whole to see where sources of H₂S may
14 be coming from and modeled therein.

15 Q. Thank you.

16 And you then transmitted the model
17 Dr. Richardson also?

18 A. Yes.

19 Q. And he reviewed the model?

20 A. Yes. We both looked it over.

21 Q. Okay. Did he have any disagreements with
22 the inputs or the results of the model prepared by
23 C.K. Disposal?

24 A. Not that I recall.

25 Q. Did -- had you reached a conclusion

1 regarding the technical sufficiency of the
2 application before requesting the model be
3 performed?

4 A. That process was still ongoing at that
5 point. But this effort or this exercise, if you
6 want to refer to it, was more about giving a voice
7 to some of the concerns that we had heard regarding
8 H2S.

9 Q. Do you believe the concerns were
10 adequately addressed?

11 A. I do.

12 MR. WOODWARD: I have no further
13 questions.

14 CHAIRMAN CATANACH: Thank you,
15 Mr. Woodward.

16 Mr. Bohnhoff.

17 MR. BOHNHOFF: Thank you.

18 CROSS-EXAMINATION

19 BY MR. BOHNHOFF:

20 Q. Mr. Griswold, as I understand it, for a
21 number of years between June 30 of last year the OCD
22 had a practice of encouraging Applicants for
23 oilfield waste disposal facility permits file draft
24 applications?

25 A. Yes.

1 Q. And if I understood your explanation the
2 reason for that was before that time; that is,
3 before Part 36 regulations were amended effective
4 June 30, 2016, the Division was constrained by a
5 limited amount of time that it had to go through the
6 permit and make an administrative completeness
7 determination?

8 A. Under the new rules, revised rules?

9 Q. Under the old rules.

10 A. Under the old rules you make a
11 administrative completeness determination. Under
12 the new rules we do not. It is still our policy to
13 encourage potential Applicants to come in and talk
14 to us early and perhaps submit draft applications.

15 Q. Was there another concern that under the
16 old rules, the pre-June 30, 2016 rules, there was a
17 concern that Applicants were not able to revise or
18 supplement their applications once they were
19 submitted?

20 A. It tended to be -- it appeared from my
21 time because these don't come in all that often.

22 MR. BROOKS: I would make an objection
23 here that he can say what the concern was, I have no
24 objection to the specific question asked whether it
25 was or was not a concern. But as to whether or not

1 the rule provided -- the rule allowed
2 supplementation of applications or did not allow
3 that, that would be a legal question which this
4 witness would not be competent to answer.

5 MR. BOHNHOFF: We have had previous
6 testimony by other nonlawyers about what the
7 regulation means. My question was whether there was
8 a concern within the Division. I would certainly
9 think that if the other witnesses were permitted to
10 talk about what the regulation means, this witness
11 should also be permitted.

12 MR. BROOKS: Well, I have no objection to
13 the question whether or not there was a concern,
14 that is certainly something this witness would be
15 able to answer.

16 CHAIRMAN CATANACH: Go ahead. Answer that
17 question.

18 A. Could I ask you, Mr. Bohnhoff, to ask me
19 again, please.

20 Q (By Mr. Bohnhoff) Within the Division was
21 there a concern that the pre-June 30, 2016, Part 36
22 regulations did not permit supplementation or
23 revision of oilfield waste disposal facility
24 applications after they were filed?

25 A. Yes, there was a concern.

1 Q. And was that part of the consideration
2 that led the Division to encourage Applicants to
3 file draft applications?

4 A. Yes, it was and remains that way. They
5 are still.

6 Q. Even under the post-June 30, 2016 version
7 there is still a concern as to whether or not the
8 regulation permits supplementation or revision after
9 the application is filed?

10 A. There is still concern on the Division's
11 part about adequate time to properly review such an
12 application.

13 Q. Separate and apart from the adequacy of
14 the time -- I want to make sure we are clear on the
15 record -- was there a concern about whether or not
16 the regulation permitted Applicants to supplement a
17 revised after they file their application?

18 A. No, there is not a concern.

19 Q. Has there ever been?

20 A. In that regard.

21 Q. Was there a concern prior to June 30,
22 2016?

23 A. Yes.

24 Q. That concern, at least, then, was solved
25 by the June 30, 2016 amendment?

1 A. In terms of the submitting additional
2 information, yes.

3 Q. Now we talked about this mistake in the
4 signature on the original application that was filed
5 by C.K. back in November of 2015. The original
6 application filed at that time was signed by their
7 engineer, correct?

8 A. Yes.

9 Q. And then Mr. Karger, the majority owner,
10 signed the new application that was filed on May 1,
11 2016?

12 A. A new form, yes.

13 Q. A new form. He didn't submit the entire
14 thick two volumes he just submitted a couple of
15 pages of the form?

16 A. Right, because we already had the
17 application.

18 Q. Do you have any understanding as to
19 whether it was a deliberate decision on the part of
20 C.K. to have the engineer file -- sign the November,
21 2015 application as opposed to have Mr. Karger sign
22 it at that time?

23 A. I have no knowledge of that.

24 Q. Well, let me ask you did you have any
25 conversations with C.K. prior to their filing that

1 application in November of 2015 whereby encouraged
2 them to file what you described as a, quote, "draft
3 application"?

4 A. Yes, that is what I encouraged them to do.
5 We treated the application as a draft and it wasn't
6 until May of 2016 that I was notified or the
7 Division was notified by C.K. by Mr. Turnbough,
8 their representative, that they wished the Division
9 to consider the application as a formal application
10 at that point. And that is when the corrected
11 Form C-137 with Mr. Karger's signature was provided
12 do the Division.

13 Q. It is correct, isn't it, that the
14 November, 2015 application does not say anywhere
15 that it is a draft?

16 A. Not that I recall.

17 Q. You testified that you were not unfamiliar
18 with draft -- with modeling?

19 A. With air quality modeling, yes, sir, I am
20 familiar.

21 Q. Have you ever done any modeling yourself?

22 A. Yes.

23 Q. Have you worked with the Screen 3 modeling
24 software?

25 A. Yes.

1 Q. Do you understand that the Screen 3 model
2 cannot account for air contaminants being emitted by
3 multiple sources?

4 A. It is a point source model.

5 Q. A single point source?

6 A. A single point source model.

7 Q. Did you instruct C.K.'s engineers to not
8 look at the hydrogen sulfide concentrations at the
9 south boundary of their facility?

10 A. No, I did not.

11 Q. To your knowledge, then, that was a
12 decision that C.K. made on its own?

13 A. Correct.

14 Q. Turn, if you would, to Exhibit P in the
15 C.K. exhibit notebook. You looked at that during
16 your examination by Mr. Woodward. This is the copy
17 of Dr. Richardson's May 13, it says 2015, but it is
18 really 2016, right --

19 A. Yes, sir, typo.

20 Q. -- letter.

21 Actually I beg your pardon. Turn to
22 Exhibit H. This is the March 25, 2016 letter.

23 If you turn to Page 2, the first full
24 paragraph. Among other criticisms of the C.K.
25 application in that paragraph he is critical of the

1 lack of design and specification information
2 provided in the application concerning their
3 produced water processing system and water treatment
4 system, correct?

5 A. The second full paragraph on that page?

6 Q. No, the first full paragraph.

7 A. The first full starting, "The facility."

8 Q. Correct.

9 A. Yes, he is asking for additional
10 information.

11 Q. And then in the next paragraph beginning
12 with that, that sentence that starts about halfway
13 through "However," he writes, "However, given the
14 depth and breath of requisite information needed,
15 the critical review of the landfill and its
16 ancillaries and operations associated with
17 produce" -- I think there should be a D on the end
18 -- "water processing and water treatment and reuse
19 systems, review cannot proceed until such
20 information is received." Do you see that?

21 A. Yes.

22 Q. In fact he never got that information, did
23 he?

24 A. Actually it is my understanding he did it
25 as what is referred to in the application now as

1 Attachment M, as in Michael, is in response to these
2 type of concerns on Dr. Richardson's part. When the
3 original, what we would otherwise refer to as the
4 draft application, that attachment did not exist.

5 Q. Why don't you turn to Attachment M. That
6 is Volume 2 of the permit application.

7 A. (Witness complies.)

8 Q. There is a table of contents that's the
9 first page of Attachment M. There is a lot of
10 engineering and design calculations, but none of
11 them really relate to the water processing system,
12 do they?

13 A. I would have to review it, sir.

14 Q. Well, you can look at the section
15 headings. None of those seem to relate to the water
16 processing systems as opposed to landfill, right?

17 A. With the possible exception of Section 2
18 regarding pipe strength, I would agree. I am not
19 sure if Section 2 refers to pipe in the water
20 processing system or in leachate collection or
21 perhaps both.

22 Q. Turn now to Exhibit P.

23 A. Applicant's Exhibit P?

24 Q. Yes. It is Dr. Richardson's May 25 letter
25 the last page.

1 A. You mean the May 13 letter?

2 Q. I'm sorry, the May 13, yes.

3 In this carryover paragraph on the second
4 to the last page, this -- Dr. Richardson raises
5 again his concern about the fact that he hasn't
6 gotten the design specification information about
7 the liquid processing portion of the C.K. facility,
8 right? And I am directing your attention to -- it
9 looks like about eight lines up from the bottom of
10 that paragraph, the sentence that begins, "Further
11 the engineering design for liquid processing." Do
12 you see that?

13 A. Yeah. That is what I am reading right
14 now, Mr. Bohnhoff.

15 Q. Go ahead and read through it.

16 A. Okay.

17 Q. Does that refresh your recollection that,
18 in fact, C.K. never did address that concern stated
19 by Dr. Richardson back in March that he needed more
20 detail about the liquid processing portion of C.K.'s
21 application in order to conduct his review?

22 A. That portion of it, but in talking with
23 Clint, because I used this document in developing
24 the tentative decision that I would otherwise refer
25 to as the draft permit, that that information was

1 not necessary for us to proceed with issuance of the
2 tentative decision.

3 Q. So you -- you decided that you didn't need
4 any detail regarding the liquid processing operation
5 in order to make that tentative decision?

6 A. Not under the current regulations.

7 Q. Wouldn't that be relevant to making a
8 decision about whether or not the proposed operation
9 would be operated without endangering public health
10 and the environment?

11 A. There apparently is sufficient information
12 that already was provided in the application. In
13 Dr. Richardson's opinion and you can ask him about
14 it here in a while, that we could still proceed. So
15 I guess that would probably be a better question for
16 him than I.

17 MR. BROOKS: Just to clarify that response
18 before last when you said under the current
19 regulations, Jim, did you mean regulations having to
20 do with this case?

21 THE WITNESS: Yes. But the Part 36, the
22 revisions that occurred in June of last year did not
23 change the technical parameters of Part 36. They
24 remained the same.

25 Q. (By Mr. Bohnhoff) Let me ask you,

1 Mr. Griswold, would it be correct that you received
2 no information, no technical study or analysis
3 regarding whether air contaminant emissions from
4 C.K.'s facility other than hydrogen sulfide would
5 endanger public health or the environment prior to
6 the tentative decision to grant the permit being
7 made?

8 A. No other information, you're correct.

9 Q. And would it also be correct that prior to
10 the tentative decision to grant the permit being
11 made, you received no analysis addressing the
12 question of whether or not operation of C.K.'s
13 proposed facility would create unsafe traffic
14 conditions at the Highway 176 entrance?

15 A. No, I have not.

16 MR. BOHNHOFF: No further questions.

17 Thank you.

18 CHAIRMAN CATANACH: All right. Anything
19 further of this witness? Commissioners?

20 EXAMINATION

21 BY COMMISSIONER PADILLA:

22 Q. I have just one quick one relating back to
23 the fence line question from earlier.

24 Why was the north line -- or if you have
25 any clarification on that whole issue -- was

1 URENCO's proximity to the north line the reason for
2 asking for that data, and if that was the only
3 reason, why wasn't the landfill to the east also
4 analyzed for potential impacts?

5 A. Commissioners, as I believe I said earlier
6 it was an attempt on my part to give voice to
7 concerns expressed by URENCO. I had a direct phone
8 conversation with David Sexton, the president of
9 URENCO, within days of the administrative
10 completeness of termination about that particular
11 issue, that it was a concern.

12 And then we got additional concern
13 expressed once the tentative decision came out.
14 And, so, I felt as a Bureau Chief that even though
15 generally air quality issues aren't under my
16 regulatory purview, we would get the ball rolling in
17 that regard and so we requested of the Applicant, it
18 was a request, not a demand, if they would undertake
19 a look and air quality modeling and they did.

20 Q. For which conceivably OCD doesn't have any
21 jurisdiction?

22 A. Correct.

23 COMMISSIONER PADILLA: Okay. Thank you.

24 CHAIRMAN CATANACH: Anything further?

25 MR. WOODWARD: I might ask one question.

1 RECROSS EXAMINATION

2 BY MR. WOODWARD:

3 Q. Mr. Griswold, would you refer to
4 Applicant's Exhibit W, please. I believe this has
5 previously been admitted and I would like you to
6 refer to the next-to-the-last page of this, well,
7 the last page before the ccs. That is Page 5 of 5.
8 And refer you to Permit Provision E. Now are you
9 responsible for the preparation of these draft
10 permit conditions?

11 A. This particular one, I did prepare myself.

12 Q. Was this prepared in response to anything
13 that you received from Dr. Richardson?

14 A. It was explicitly prepared in response to
15 what I received from Dr. Richardson.

16 Q. What does this draft permit condition
17 require?

18 A. That he provide the information that
19 Mr. Bohnhoff had asked for previously and that Clint
20 had alluded to in his letter.

21 Q. So before any of the liquid processing
22 facility could be built at the C.K. Disposal
23 facility, if this permit is issued, would require
24 detailed engineering designs to be submitted to the
25 OCD for review?

1 A. Correct.

2 MR. WOODWARD: No further questions.

3 CHAIRMAN CATANACH: This witness may be
4 excused.

5 MR. BROOKS: Mr. Chairman, I think I have
6 a housekeeping matter before I rest, which I will
7 need to cooperate with the court reporter, but I
8 think in view of the timing, it would be better to
9 go ahead and take the luncheon recess. I am not
10 going to take any more testimony, I am going to
11 clarify which exhibits, if any, I need to offer.

12 CHAIRMAN CATANACH: We will stand in
13 recess until 2:00.

14 (A recess was taken.)

15 CHAIRMAN CATANACH: So we will call the
16 hearing back to order at this time, and I believe,
17 Mr. Brooks, you had something else to take care of?

18 MR. BROOKS: I did. I spoke to the court
19 reporter during the break and he indicated that I
20 could simply indicate the exhibits that I want to
21 admit, that I want to offer in evidence and even if
22 they were not, and he could take care of seeing if
23 they were already in evidence, so it wouldn't be
24 necessary for me to verify that they were, in fact,
25 already in evidence.

1 I want to offer Exhibits K, N, W and U in
2 evidence if they are not already in evidence for all
3 purposes, and I believe they are stipulated to in
4 the stipulations. I would also offer Exhibits H, I,
5 P, Q, T, and V; that is Hotel, India, Papa, Quebec,
6 Tango and Victor, in evidence for the limited
7 purpose of showing information on which Mr. Griswold
8 relied understanding that many of these are were
9 authored by Dr. Richardson and they are not being
10 offered for the purpose of showing his opinions
11 because they would be hearsay for that purpose, I
12 would assume.

13 CHAIRMAN CATANACH: Okay. Is there any
14 objection to any of those exhibits?

15 MR. BOHNHOFF: I have no objections to the
16 Exhibits coming into evidence. I think
17 Mr. Griswold's testimony about what he did or did
18 not rely on needs to stand based upon the testimony.
19 I am not sure we need to have -- well, I guess the
20 Exhibits could come into evidence for the purpose of
21 whether or not Mr. Griswold relied on them, but
22 whether he relied on them, I think should be based
23 upon Mr. Griswold's testimony.

24 MR. BROOKS: I do not disagree with that.
25 They will be limited for the purpose of showing

1 communications to Dr. Richardson that were
2 available.

3 MR. BOHNHOFF: That is fine.

4 CHAIRMAN CATANACH: Exhibit the K, N, W,
5 U, H, I, P, Q, T and V will be admitted into
6 evidence. Does that conclude your --

7 (Exhibits K, N, W, U, H, I, P, Q, T and V
8 admitted.)

9 MR. BROOKS: With that, the Division
10 rests.

11 CHAIRMAN CATANACH: Mr. Woodward, I turn
12 it back over to you.

13 MR. WOODWARD: We are down to the last
14 witness that we had on our prehearing statement. It
15 is Dr. Clint Richardson, who we are going to dial on
16 the telephone.

17 CHAIRMAN CATANACH: Is this
18 Dr. Richardson.

19 DR. CLINT RICHARDSON: Yes.

20 CHAIRMAN CATANACH: Dr. Richardson, this
21 is David Catanach. You are tuned into the hearing
22 at this point, and I guess at this point we will
23 just turn it over to Mr. Woodward.

24 MR. WOODWARD: I think this -- it would be
25 appropriate for have you sworn in telephonically.

1 THE WITNESS: I hope so, yes.

2 (Whereupon, the witness was sworn.)

3 CLINT RICHARDSON,
4 after having been first duly sworn under oath,
5 was questioned and testified as follows:

6 THE WITNESS: My name is Clinton Preston
7 Richardson, C-L-I-N-T-O-N, P-R-E-S-T-O-N,
8 R-I-C-H-A-R-D-S-O-N.

9 MR. WOODWARD: Thank you, Dr. Richardson.

10 CHAIRMAN CATANACH: You can hear us okay,
11 Mr. Richardson?

12 THE WITNESS: It is not too loud, but I
13 can make it. I have got my ear right next to the
14 phone.

15 DIRECT EXAMINATION

16 BY MR. WOODWARD:

17 Q. If you have troubles hearing me, this is
18 Mike Woodward. I am counsel for C.K. Disposal. I
19 am going to ask you a few questions and if you have
20 troubles hearing me, please let me know and I can
21 move closer to a microphone.

22 A. Okay.

23 Q. Dr. Richardson, did you receive a package
24 from me that contained the exhibits that were
25 proposed by C.K. Disposal?

1 A. Yes, I did, overnight delivery.

2 Q. Yes, sir. Do you have that package in
3 front of you?

4 A. I sure do.

5 Q. Could you please refer to that package and
6 look at Exhibit E.

7 A. Exhibit E, okay. All right, I just got a
8 page for Exhibit E. I don't have anything beyond
9 that.

10 Q. Nothing behind?

11 A. Nothing behind it. The next one is F.

12 Q. Well, would you be so kind as to describe
13 your educational experience.

14 A. Okay. Was that what it was?

15 Q. Yes, sir.

16 A. I did get that. Okay. I have a Ph.D.
17 from the University of Kansas in civil engineering.

18 I have Master's from the University of
19 Texas in environmental health engineering, and I
20 have a BS from Western Kentucky University in
21 environmental engineering technology.

22 Q. Are you a Registered Professional
23 Engineer?

24 A. Yes, I am in the State of New Mexico and
25 also in the Commonwealth of Kentucky.

1 Q. And do you have any affiliations with any
2 professional associations?

3 A. Yes. Air and Waste Management
4 Association, Water Pollution Control Federation,
5 American Waterworks Association, Solid Waste
6 Association of North America, the Association of
7 Environmental Engineering and Science Professors. I
8 think -- and let's see, I think that is it.

9 Q. Thank you.
10 I understand you have written a book on
11 landfill design?

12 A. Yes, I have.

13 Q. What is the title of that book?

14 A. I think it is called Landfill
15 Calculations, A Manual Practice.

16 Q. It sounds like you have had quite a bit of
17 experience designing and reviewing designs of
18 landfills?

19 A. Yeah, I would say so.

20 Q. Okay. Well, would you please describe
21 your role in the review of the C.K. Disposal
22 application?

23 A. Okay. Well, Jim Griswold contacted me and
24 asked if I would be available to look at this
25 application for permit that involved -- part of it

1 involved a landfill operation, and I said yeah, I
2 could do that.

3 So he arranged through tech to get a
4 contract and so to pay me for my services to do
5 that, and that is how it all started.

6 Q. What was the scope of your review to be?

7 A. It was to focus in primarily on the parts
8 of the application that dealt with the landfill.
9 That was my understanding.

10 Q. And when were you initially contacted?

11 A. Oh, my gosh, I don't particularly know the
12 date. You would have to ask Jim about that one.

13 Q. Have you previously reviewed landfill
14 permit applications for the State of New Mexico?

15 A. Yes. I am on contract with the Solid
16 Waste Bureau to do that. So I review all
17 applications for permit for landfills. I also
18 review their quality control documents for the
19 construction of those landfills and, you know,
20 whatever I am needed to do with -- related to those
21 reviews.

22 Q. Is the Solid Waste Bureau part of the
23 New Mexico Environment Department?

24 A. Yes. Yes, it is the Solid Waste Bureau
25 under the Environment Department and Auarlie, Ashley

1 Marks is the Bureau Chief, so I work very closely
2 with her on all of these projects.

3 Q. That is reviewing municipal solid waste
4 landfill permit applications?

5 A. Municipal, yes.

6 Q. Well, I am going try to go to the Exhibits
7 again and ask you to find Exhibit H.

8 A. Exhibit H. All right, I have it.

9 Q. Are you familiar with this document?

10 A. Yes. I wrote it.

11 Q. Okay. And to the best of your ability is
12 this -- the copy of this exhibit an accurate copy of
13 the letter you wrote?

14 A. Yes.

15 Q. What was the purpose of this letter?

16 A. Well, after I initially reviewed the --
17 the permit application I felt that, you know, there
18 was a lot of design elements that had not been
19 addressed as far as the actual engineering
20 calculations. So I sent Jim this letter requesting
21 that somehow I, you know, to further my review I
22 would need these specific -- specific engineering
23 calculations. And I laid out a laundry list here of
24 stuff that is typically required by the Solid Waste
25 Bureau for municipal landfills and they are

1 certainly applicable for this particular landfill as
2 well, because they are just standard engineering
3 calculations that deal with that solid waste
4 management.

5 Q. And did you receive the calculations that
6 you requested?

7 A. Yes, I did.

8 Q. And did you have an opportunity to review
9 those calculations?

10 A. Yes. I spoke with -- after this letter
11 went out, I got a call from Holly Hunter, the
12 engineer, and he, you know, agreed that yeah he
13 would furnish those calculations, but he asked me if
14 hand calculations would do for right now, I said
15 yeah, go ahead and send those in. And he said I
16 will work up a more formal attachment that shows
17 these calculations later, more typed and so forth.
18 So he sent those in and that is what I reviewed and
19 then, of course, later I got the typed versions.

20 Q. Would it be the gentleman you were talking
21 to be Holly Holder?

22 A. Oh, okay, yes, it is Holder. Yeah, I'm
23 sorry, I thought it was Hunter, Holly.

24 Q. If I could get you to now pull out
25 Exhibit P from the package of exhibits.

1 A. Exhibit P, okay. Got it.

2 Q. Do you recognize what has been marked as
3 Exhibit P?

4 A. Yeah. That is might letter back to Jim
5 Griswold.

6 Q. The copy I have is marked draft and I am
7 wondering was there ever a version of this letter
8 that was -- where the draft was removed?

9 A. Not to my knowledge, no.

10 Q. Does --

11 A. Usually the way I do it with the --
12 Auarlie at the Solid Waste Bureau, I send in a draft
13 and then later on there might be some response back
14 from either the engineer or from the Solid Waste
15 Bureau to clarify something, and then I issue a
16 final and I send it in as a hard copy final.

17 Q. So you never received any feedback from
18 the OCD on this draft?

19 A. No, I didn't.

20 Q. Would this letter represent your thoughts
21 after your final review of the C.K. Disposal
22 application?

23 A. Well, that letter pretty much addresses
24 the engineering calculations that I went through and
25 looked at all of those and I have all of the

1 software programs and spreadsheets that I can plug
2 in their numbers to see if the calculations are
3 correct. So, it is an accurate reflection of those
4 calculations.

5 Q. Is this, the copy of the letter that is
6 marked Exhibit P an accurate copy of the letter that
7 you sent to Mr. Griswold?

8 A. Yes, it is.

9 MR. WOODWARD: I would move admission of
10 Exhibit P.

11 MR. BROOKS: No objection.

12 MR. BOHNHOFF: I think it was previously
13 admitted, but no objection.

14 CHAIRMAN CATANACH: Exhibit P will be
15 admitted.

16 (Exhibit P admitted.)

17 Q. (By Mr. Woodward) Dr. Richardson, what
18 was your general impression of the engineering and
19 calculations contained in the C.K. Disposal permit
20 application?

21 A. Well, they were pretty thorough and, you
22 know, I work pretty closely with Holly on
23 clarification of things that I wanted to see. And
24 he provided everything that I asked for. And,
25 again, there consensus type of calculations that are

1 typical for municipal landfills to look at all of
2 these different design elements and the assumptions
3 that he used, the parameters that they used, are all
4 reasonable and within range of general engineering
5 accepted practice. So, I am not the one to argue
6 that, you know, one parameter is supposed to be 25
7 and they used 26. As long as it is within commonly
8 accepted ranges, it is a commonly accepted method
9 for calculation, I just review those and I run the
10 numbers and if I concur with those numbers, then I
11 am satisfied.

12 Q. I would now like to refer you to
13 Exhibit W.

14 A. W. Which one is that one?

15 Q. It should be a letter dated October 13,
16 2016, tentative decision regarding commercial
17 surface waste management facility.

18 A. That is -- is this October 13, 2016?

19 Q. Yes, sir.

20 A. Okay. I got it.

21 Q. Have you had an opportunity to review this
22 document?

23 A. No, I have not.

24 Q. Okay. Well, there is a couple of things I
25 would like to talk to you about this document, so if

1 we could go back -- if you could keep that one out
2 and then I also want to look at Exhibit P, because I
3 believe there were a couple of items where you were
4 expressing a need for additional information. The
5 first one was, I believe that you had some concern
6 about establishing vegetation on the side slopes.
7 Are you familiar with that issue?

8 A. Yeah. Let me pull that, that is in
9 Exhibit P.

10 Q. Yes, sir.

11 A. All right.

12 Q. The pages aren't numbered, unfortunately,
13 but it is the fifth page.

14 A. Okay.

15 Q. In the second full paragraph on that page
16 you have a discussion about a need for a formal
17 erosion control plan. Is that correct?

18 A. Yes.

19 Q. And why -- why did you see a need for
20 that?

21 A. Well, it says here that -- they had a
22 statement structural best management practices and
23 an effective vegetation plan will aid in erosion
24 protection. That is provided in the narrative.
25 They do have, you know, a table listing the seed mix

1 and the rates and so forth. And it talks about a
2 discussion of the soil erosion layer and
3 establishing vegetation in Attachment D. But to me
4 in these permits, like I review for the State, there
5 is always a formal erosion control plan that's
6 included as part of, you know, the -- the final
7 cover that they are going to be placing on this
8 landfill. And so I just said that I thought that
9 that should be included in the permit application.

10 Q. If I could now refer you back to
11 Exhibit W, the tentative decision, I would like to
12 refer you to Page 5 of 5 of that document.

13 A. Okay.

14 Q. And if you could take a look at
15 Provision F.

16 A. Okay, yeah.

17 Q. And would this particular permit provision
18 satisfy your request?

19 A. Yeah, I think so.

20 Q. Thank you.

21 Now, going back to Exhibit P, the -- you
22 did find in your professional opinion that the soil
23 erosion estimates as calculated by Holly Holder
24 accurately reflected the potential soil loss at the
25 site, did you not?

1 A. Right, uh-huh, yeah. I have both of those
2 methodologies available that I use all the time.
3 So, I just went through again his numbers and
4 concurred.

5 Q. Thank you.

6 Next I want to discuss another issue that
7 you raised in your letter dated May 13, Exhibit P.
8 And that was about the -- your opinion that the
9 application lacked detailed design for the liquid
10 processing facility. Are you familiar with that
11 issue?

12 A. Yes.

13 Q. And you had requested, I believe a couple
14 of times in your letter and pointed out that you
15 thought there needed to be some engineering design
16 included on the liquid processing area?

17 A. Yes. But I mean I also had a little
18 caveat in there that, you know, if they are going to
19 be brought on online they need to have those
20 calculations before they are brought online, that
21 was my point.

22 Q. Well, what I would like to do, then, is
23 refer you back to Exhibit W, that same page we were
24 just looking at, Page 5 of 5 of the draft permit.

25 A. Okay.

1 Q. And then look at Proposed Permit
2 Condition E.

3 A. Yes.

4 Q. And I have the same question, would that
5 satisfy your request contained in that letter?

6 A. Yeah, I think when those operations are
7 potentially brought online, before they are brought
8 online, they need to have some detailed calculations
9 and design information. I mean, I would require
10 that of anybody.

11 Q. Yes, sir.

12 And then I have one other item I wanted to
13 address there and that has to do with the proposed
14 saltwater disposal. I think you pointed out it
15 probably would need a permit before it could be
16 constructed on site?

17 A. You're talking about what now, the
18 disposal well?

19 Q. Yes, sir.

20 A. Yeah.

21 Q. And so, on that same page, I wanted to
22 have you look at Proposed Permit Provision G --

23 A. Right.

24 Q. -- on Page 5 of 5. And that clarifies
25 that there will be no injection well constructed

1 without first going through the permitting process?

2 A. Yeah. I would think that is the way you
3 would want to do it.

4 Q. Yes, sir, we all agree.

5 MR. WOODWARD: I pass the witness. Thank
6 you, Dr. Richardson.

7 THE WITNESS: All right, thanks.

8 CHAIRMAN CATANACH: Mr. Brooks, do you
9 have any questions?

10 MR. BROOKS: I have no questions.

11 CHAIRMAN CATANACH: Mr. Bohnhoff?

12 MR. BOHNHOFF: Thank you.

13 CROSS-EXAMINATION

14 BY MR. BOHNHOFF:

15 Q. Dr. Richardson, my name is Hank Bohnhoff.
16 I represent an intervening party and Protestant,
17 Louisiana Energy Services, LES. LES owns and
18 operates a uranium enrichment facility that is due
19 north of the proposed site for the C.K. oilfield
20 waste disposal facility. First of all, can you hear
21 me?

22 A. Yes.

23 Q. All right. I have the understanding that
24 you have experience with a number of municipal solid
25 waste landfills. Prior to looking at the C.K.

1 application had you ever had any exposure to
2 oilfield waste disposal facilities?

3 A. No.

4 Q. Turn back to Exhibit H. That is your
5 March 25, 2016 letter to Mr. Griswold.

6 A. Uh-huh.

7 Q. Do you recall how long before you sent
8 this letter you had been contacted by Mr. Griswold
9 and asked to look at the application?

10 A. You are asking me the timeline now?

11 Q. Just generally, if you can recall. I
12 don't need an exact date, but how long, was it a
13 month, or two or three, or four, before March 25 of
14 2016 that you were first contacted?

15 A. Oh, gosh, I don't know the exact date. I
16 don't -- I don't remember that.

17 Q. Let me ask you, did anybody ever tell you
18 that the application that was sent to you,
19 presumably before March 25 of 2016, was a draft
20 application?

21 A. Oh, I don't know. I don't remember that.
22 I don't recall that.

23 Q. And now if we look at the first page of
24 the March 25 letter, in the second paragraph, you
25 indicate that there were a lot of necessary

1 engineering calculations that were lacking with
2 respect to the landfill design in the C.K.
3 application, correct?

4 A. Yes.

5 Q. And then turning to the second page of
6 your letter, the first full paragraph, you also
7 pointed out that there were aspects of the
8 application that were handled in -- I am quoting, "A
9 cursory manner through narrative but lacking in
10 essential design and specification information." Do
11 you see that language?

12 A. Yes.

13 Q. And in particular what you were referring
14 to was the produced water processing system,
15 correct?

16 A. Yes, the -- there is two, like I said, two
17 major waste handling unit operations that produce
18 water and then the water treatment reuse. And it
19 was just a narrative is all it was and, you know, if
20 that was going to be part of the permit, then I
21 said, you know, I would like to see more, plans,
22 specs and calculations, I think should be included
23 in that.

24 Q. Sure. And then if we drop down to the
25 next paragraph about four or five lines up from the

1 bottom of that paragraph you wrote, quote, "A
2 critical review of the landfill and its ancillaries
3 and unit operations associated with produced water
4 processing and water treatment and reuse systems
5 review cannot proceed until such information is
6 received."

7 In your discussions with Mr. Holder that
8 followed this letter did you understand that you
9 were going to get that information as well regarding
10 the water processing systems?

11 A. No, in talking with Holly, it was my
12 understanding that, one, I would only get the
13 calculations for the landfill because that is all
14 OCD was requiring at the time.

15 Q. Did you ever get any more information
16 about the water processing systems other than what
17 was originally provided to you in the application
18 itself?

19 A. No, I never got anything else. I got all
20 the calculations that I needed for the landfill, but
21 nothing else.

22 Q. Sure. Turn now to Exhibit P, your May 13
23 letter. If you could turn to the second to the last
24 page, sir. Down at the bottom of the page do you
25 see your discussion about migratory bird

1 requirements?

2 A. Yes.

3 Q. And then extending down to the top of the
4 following page, the last page of your letter, was
5 there a deficiency in the application's treatment of
6 migratory bird issues?

7 A. I didn't make a determination that there
8 was a deficiency, I just stated what I thought, you
9 know, based on what they were saying in their
10 narrative about an exemption that it might be
11 granted if they could do some additional work there
12 to figure out what -- how many birds they have, what
13 patterns they have as far as the migration and so
14 forth.

15 Q. If we look at the top of the last page,
16 the second line, you write, "Page 18 of the permit
17 application suggests as migrator bird plan exist."
18 Do you see that language?

19 A. Yes, uh-huh.

20 Q. Then if we drop six or so lines down in
21 that paragraph you write, "No plan is given in the
22 reference to section, only a request for exemption."

23 A. Yeah.

24 Q. Does that refresh your recollection that
25 the application states that there is a migratory

1 bird plan but, in fact, none exists?

2 A. Okay. I will agree with that.

3 Q. Then towards the end of that paragraph,
4 the second to the last paragraph of the letter that
5 is where you discuss again the fact that you want to
6 see some design and specification detail regarding
7 the liquid processing operations and you still
8 hadn't received that, right?

9 A. Yes. I haven't received any of that. I
10 just made the statement that if it is going to be
11 put online, that that review and approval should be
12 prior to coming online. It doesn't mean that I am
13 going to be reviewing it, it is just that somebody
14 is going to have to do it.

15 Q. So what we have, then, is a situation
16 where the permit is granted and then at some later
17 point in time C.K. provides the specification on how
18 that liquid processing system works, is that how you
19 understand the decision to have been made?

20 A. Yeah, that is what I was under the
21 impression that it wasn't going to be part of the
22 upfront operations that it would be phased in over
23 time, and I talked to Jim about it and I said, you
24 know, if that is the case, then, you know, when it
25 is ready for phasing in that they should be notified

1 and the appropriate agencies, other appropriate
2 agencies should be notified and a proper review
3 should be conducted.

4 Q. In your March 25 letter you had
5 characterized this information as, quote,
6 "essential," end of quote, design and specification
7 information.

8 If that information is not provided until
9 after the permit is granted, would you agree that
10 that would have the result of denying an opportunity
11 for the public to review and comment on that design
12 information?

13 A. Could you rephrase that now.

14 Q. Sure. If the permit is granted and only
15 after the permit is granted does C.K. provide this
16 essential information, wouldn't that have the result
17 of denying an opportunity for the public to comment,
18 review and comment on that information?

19 A. Well, I can't make that determination,
20 that would have to be the determination of the OCD.
21 I think you could probably write a permit such that
22 at that point in time if that -- operations are
23 going to be brought online that they would have a
24 complete review process with a public comment and so
25 forth. I think that could be written into a permit.

1 I don't think that granting a permit is not going to
2 knock them out of the public comment. I mean, it
3 shouldn't.

4 Q. But if -- can we agree that there would
5 have to be some provision to essentially reopen the
6 proceeding to allow the public to have comment on
7 this additional essential information that is going
8 to be provided, would you agree with that?

9 A. Well, I think the public should be
10 involved, yeah, that is just common sense. But I
11 mean, again, the permit would have to be written
12 such that at that point in time you would have that
13 review process, approval process, the comment
14 process on that part of the operation.

15 Q. Dr. Richardson, as part of your review of
16 the application, were you ever provided any
17 information addressing traffic safety issues that
18 might relate to C.K. accessing State Highway 176 for
19 purposes of getting to its proposed facility?

20 A. No.

21 Q. Other than the hydrogen sulfide modeling
22 information that was provided to you in September of
23 last year, were you ever provided any information
24 regarding air quality issues?

25 A. No, just that modeling results.

1 MR. BOHNHOFF: I pass the witness.

2 CHAIRMAN CATANACH: Dr. Richardson, this
3 is Chairman Catanach.

4 EXAMINATION

5 BY CHAIRMAN CATANACH:

6 Q. I guess my question would be on the liquid
7 processing, is that normally required in a municipal
8 type landfill?

9 A. If there is leachate treatment, yes.

10 Q. And so do you believe that that is
11 essential to be evaluated in this type of permit?

12 A. I think they are separate issues as far as
13 I understand it.

14 Q. But you wouldn't feel -- I mean, you think
15 that that is a necessary review document that we
16 should be reviewing prior to the system coming
17 online?

18 A. Prior to any of those operations coming
19 online. I am not sure that it would impact the
20 landfill coming online because we looked at
21 potential gas production from the landfill and
22 leachate production of the landfill and that is not
23 going to be an issue there.

24 Q. Dr. Richardson, did you look at the H2S
25 plan that was submitted by the Applicant?

1 A. I looked at the calculations, yeah, and
2 whatever was in the application.

3 Q. And is that something that you typically
4 review, too, in other types of municipal
5 applications?

6 A. You don't have H₂S problems in municipal
7 landfills. You can occasionally have that problem
8 in a C and D landfill, but that is just because you
9 are disposing gypsum and so forth. But no, we never
10 never run into that in the municipal side of things,
11 it is only on the methane.

12 Q. So do you have experience with the H₂S
13 part of that process with this application?

14 A. Well, I'm familiar with H₂S omission. I
15 mean, you know, that is just a gas. That is in
16 equilibrium in water, so, yeah, it is just
17 chemistry. I am familiar with that part of it.

18 Q. So what was your feeling with regards to
19 the H₂S calculations that were provided to you by
20 the Applicant?

21 A. Well, they used a basic EPA screening
22 model. The point source, single point source. It
23 is a Gaussian dispersion model. It's very typical.
24 It is part of a larger model, the Industrial Sources
25 Complex model, but it is a screening model and

1 basically you -- in that model you have to calculate
2 what the source term would be and that is what the
3 engineers were doing based on the operation there.
4 Looking at a worst-case scenario, that concentration
5 was at ten parts per million. And then based on the
6 source load, the height of emission and then
7 inputting the meteorological conditions, you can
8 predict ground level concentrations that are at
9 different points, and that's what they did. I just
10 went through their calculations to look at the point
11 source load and that was just based solely on
12 Henry's law. So if you know Henry's constant and
13 you know the concentration in the liquid, then there
14 is a calculation there that you can estimate the
15 concentrations and go from there. So everything --
16 again, I look at what they provide. If it is a
17 commonly accepted method, which EPA's screening
18 model is and I look at their assumptions, if they
19 are reasonable, in range, typical accepted values, I
20 am not going to question it I just go through and
21 check the calculations and go with it.

22 Q. So, you didn't disagree or have any issues
23 with what they submitted to you?

24 A. No. Basically that model showed that they
25 were going to be at parts per billion. And that was

1 based on a worst-case scenario of ten parts per
2 million at the source, and in the document they were
3 talking about they was going to monitor that and if
4 it got to that point then they were going to do
5 chemical treatment to knock that down and the
6 chemicals that they were talking about was very
7 common to do that.

8 CHAIRMAN CATANACH: Thank you,
9 Dr. Richardson. That's all I have. Is there any
10 other questions of this witness?

11 MR. WOODWARD: I have no further
12 questions.

13 CHAIRMAN CATANACH: Okay. Do you think we
14 can just dismiss this witness at this point?

15 MR. WOODWARD: Yes, sir.

16 CHAIRMAN CATANACH: Dr. Richardson, I
17 think we're done with you. I appreciate your time.

18 THE WITNESS: Great.

19 CHAIRMAN CATANACH: So we will turn you
20 loose.

21 THE WITNESS: Okay. I got stuff I have to
22 do.

23 CHAIRMAN CATANACH: Thank you.

24 MR. WOODWARD: With that the Applicant
25 rests its direct case.

1 CHAIRMAN CATANACH: Do you need a couple
2 of minutes to set up, Mr. Bohnhoff?

3 MR. BOHNHOFF: I think I can go ahead and
4 start with my first witness, who is Steve Cowne.

5 THE WITNESS: Stephen Cowne. Stephen is
6 S-T-E-P-H-E-N, Cowne is C-O-W-N-E.

7 (Whereupon, the witness was previously
8 sworn.)

9 STEPHEN COWNE,
10 after having been first duly sworn under oath,
11 was questioned and testified as follows:

12 DIRECT EXAMINATION

13 BY MR. BOHNHOFF

14 Q. Mr. Cowne, how old are you?

15 A. Fifty-nine.

16 Q. Where do you live?

17 A. Andrews, Texas.

18 Q. How are you employed?

19 A. I am the head of compliance for
20 URENCO-USA.

21 Q. As head of compliance what aspects of the
22 plant's operations are you responsible for?

23 A. I manage six departments within the site.
24 I manage radiation protection; I manage licensing
25 and performance assessment; I manage quality

1 assurance/quality control; I manage the safeguards,
2 material accounting functions; I manage security
3 functions; and then I also manage health and safety
4 and emergency preparedness.

5 Q. When did you graduate from high school?

6 A. 1975.

7 Q. And where was that?

8 A. Brentsville, Virginia.

9 Q. Why don't you summarize for us your formal
10 education since high school.

11 A. I have a Bachelor's of Science degree in
12 civil engineering from Virginia Tech. I have a
13 Master's in engineering from George Washington
14 University, and I also have completed Admiral
15 Rickover's New Propulsion Officer Training Program.

16 Q. Please summarize your work history between
17 college and going to work for LES.

18 A. Okay. As I mentioned, I was an officer in
19 the Navy. I went through the -- after college went
20 through the nuclear propulsion training program and
21 served on nuclear warships. After about five years
22 of active duty, transferred to the Reserves and went
23 to work in the commercial nuclear power industry. I
24 worked at a nuclear power plant on the East Coast
25 for 11 years doing various jobs for them as an

1 employee, both as an individual contributor and
2 manager, project management, engineering, licensing,
3 quality assurance and systems engineering.

4 I had an opportunity to leave and go to
5 work for a company called United States Enrichment
6 Corporation in Paducah, Kentucky, and they were a
7 former competitor actually of URENCO. They enriched
8 uranium for the civilian industry, civilian nuclear
9 power plants, and so I left and went to work for
10 them as their regulatory affairs manager, and what I
11 was doing was helping them transition from DOE
12 oversight to NRC oversight, changing their licensing
13 documents so that they could conform to NRC
14 requirements and then also help changed their
15 culture at that facility from a DOE culture to a
16 nuclear power culture where you have proper safety
17 culture, proper verbatim compliance or procedures,
18 things like that.

19 And then after working there for ten
20 years, I had an opportunity to come to URENCO, so I
21 left and came here.

22 Q. And what year was that, that you came to
23 URENCO?

24 A. 2007, early 2007.

25 Q. What is LES?

1 A. LES is a wholly-owned subsidiary of
2 URENCO, Limited which is URENCO, Inc., URENCO-USA,
3 Inc., excuse me, which is a subsidiary of URENCO
4 Limited. What LES does is it is -- it enriches
5 uranium up to levels needed in commercial nuclear
6 power plants. We take natural uranium hexafluoride
7 and we increase the isotope of uranium 235 to the
8 enrichment levels that our customer needs in the
9 making of their fuel for their reactor cores.

10 Q. What is the use of the enriched uranium
11 that you produce?

12 A. The use is used in the nuclear power
13 industry. In the United States we are somewhere
14 between 5 and 10 percent of the electricity in the
15 U.S. comes from fuel that is enriched at our
16 facility.

17 Q. Is the LES uranium enrichment facility
18 subject to any government regulation?

19 A. Yes. A lot of -- a lot of federal
20 regulations. In accordance with the 1992 Energy
21 Policy Act, the lead federal agency for nuclear
22 facilities and for our facility is the NRC, United
23 States Nuclear Regulatory Commission. We are also
24 subject to Department of Energy regulations,
25 particularly in export/import control, also in

1 information security. We possess classified
2 information in our facility and DOE has some
3 regulations there. We also fall underneath the
4 customs and Border Patrol Department of Homeland
5 Security because of the nature of some of our
6 equipment parts coming over from Europe.

7 Q. When was -- and we are talking about the
8 plant is approximately two miles or so east of
9 Eunice, correct?

10 A. It is about four miles east of Eunice,
11 yes.

12 Q. When was that facility built?

13 A. Okay. Construction started in 2006, late,
14 2006, the groundwork that was done. When I got to
15 the facility in March of 2007, they were just
16 starting to do the grade work, we began construction
17 and our initial operations went into effect in June
18 of 2010. That is when we put our first cascades
19 online.

20 An enrichment plant is a little bit
21 different than a nuclear power plant. You are
22 allowed to put cascades and separation building
23 modules online as they become available, much like
24 in our production facility, it is not one switch
25 turns on everything type of approach. So in the

1 last few years we have been adding cascades to the
2 facility, increasing our production as we go along
3 and we have more cascades to add to our production
4 capability here in the coming years.

5 Q. You say cascades, what is a cascade?

6 A. Cascade is a number of centrifuges that
7 are grouped together in one throughput that -- where
8 you feed in your uranium hexafluoride material,
9 becomes a gas, it is enriched through the
10 centrifuges, it is then turned -- sublimated and
11 then turned back into a solid, and put into
12 cylinders and shipped off to do our customers.

13 Q. How much did the facility cost to date?

14 A. To date it is a little over \$4 billion and
15 we are going to be approaching 5 billion.

16 Q. You told us at the beginning of your
17 testimony that you were responsible for emergency
18 preparedness and security. Under LES rules and
19 procedures, are your emergency response and security
20 personnel allowed to evacuate the plant?

21 A. No. They are -- you cannot completely
22 evacuate the facility. To do so would violate
23 federal regulations. It would also expose
24 classified information. It would also allow special
25 nuclear material to be unsecured and it could

1 potentially put public health and safety in
2 jeopardy.

3 Q. Even in an emergency situation, how
4 quickly can LES operational personnel, and I am
5 referring to operational personnel separate and
6 apart from security or emergency response personnel,
7 how quickly could LES operational personnel turn off
8 in the enrichment equipment and shut down the
9 operations?

10 A. Okay. That is a complicated process.
11 First if we made a decision to have to try to do
12 something like that during normal work hours where
13 we had the bodies available to do the cylinder
14 connections and disconnections, valve manipulations,
15 et cetera, we could probably do that within -- with
16 a minimum 24 hours. If it was done in off hours,
17 you know, at nighttime, weekends or something like
18 that where the number of operators, trained
19 certified operators were limited, probably take 36
20 hours.

21 Q. What would happen if personnel just left
22 with the cascades running?

23 A. Well, as I -- a couple -- there is a
24 couple of different things that would happen. As I
25 mentioned previously, there would be some regulatory

1 and legal implications as a result of leaving the
2 facility in that sort of state without proper
3 security to protect the special nuclear material and
4 without security personnel to protect the classified
5 information. But to leave the equipment running
6 like that, you would likely end up causing the
7 cascades, the centrifuges and the cascades to crash,
8 which means they would be irrecoverable as an asset,
9 the damage would be done to them.

10 In order to shut down a facility you have
11 to go through a slow methodical process of
12 evacuating the gases, connecting and disconnecting
13 certain cylinders that provide the material and
14 receive the material. There is also other chemistry
15 things that have to be done. It is just a long
16 process with several -- many procedures that have to
17 go through to properly shut it down.

18 Q. If you would take that black notebook,
19 turn to Exhibit E. This is LES Exhibit E.

20 This is an aerial photograph taken from an
21 oblique angle. Can you identify what is shown here?

22 A. Yes. It is an old photograph, but it is a
23 photograph of our URENCO facility.

24 Q. Tell me -- let me ask you, first of all,
25 is this a fair and accurate picture of the facility,

1 at least some years ago?

2 A. Yes, it is.

3 MR. BOHNHOFF: Mr. Catanach, I would move
4 the admission of Exhibit E.

5 MR. WOODWARD: No objection.

6 CHAIRMAN CATANACH: Exhibit E will be
7 admitted.

8 (Exhibit E admitted.)

9 Q. (By Mr. Bohnhoff) I will ask you to turn
10 to Exhibit D, as in dog. Can you identify this as
11 an aerial photograph that is looking down on the
12 URENCO facility and it shows other facilities
13 nearby?

14 A. Yes, I see that.

15 Q. And there is -- a number of the facilities
16 are labeled, for example, Lea County Landfill, Waste
17 Control Specialists, Sundance. Is that a fair and
18 accurate depiction of the facilities that occupy the
19 land surrounding URENCO?

20 A. Yes.

21 MR. BOHNHOFF: I would move the admission
22 of Exhibit D.

23 CHAIRMAN CATANACH: Any objections?

24 MR. WOODWARD: May I take the witness on
25 voir dire about this document? I would like to test

1 the accuracy of it.

2 MR. BOHNHOFF: Go ahead, I mean...

3 VOIR DIRE EXAMINATION

4 BY MR. WOODWARD:

5 Q. Did you prepare this document?

6 A. No, I did not.

7 Q. Do you know who put this statement in
8 there that says, "Eunice two miles"?

9 A. No, I don't know who put that in there.

10 Q. But you agree that Eunice is actually
11 four miles?

12 A. Yeah, to the City center, yeah, I have
13 driven there before from the site.

14 MR. WOODWARD: No objection with that
15 understanding.

16 CHAIRMAN CATANACH: Okay. Exhibit D will
17 be admitted.

18 (Exhibit D admitted.)

19 MR. BOHNHOFF: Mr. Chairman, I make the
20 observation that at the point of which that wording,
21 "Eunice two miles" appears on Exhibit D, it is not
22 necessarily inconsistent with the previous testimony
23 that Eunice is four miles from the C.K. Disposal
24 property and could very well be two miles from where
25 that language is shown on this aerial.

1 MR. WOODWARD: But we don't know that, do
2 we?

3 DIRECT EXAMINATION (Continued)

4 BY MR. BOHNHOFF:

5 Q. How much land does the LES plant occupy?

6 A. It is approximately one square mile.

7 Q. Is that Section 32?

8 A. Yes, that is correct.

9 Q. Now if we look at Exhibit D, this shows a
10 roughly pie-shaped sliver of land that lies south of
11 176 but north of the C.K. Disposal property. Is
12 that part of Exhibit 32?

13 A. You mean Section 32.

14 Q. Section 32, excuse me, yes.

15 A. Yes, sir, it is.

16 Q. And does LES have any rights to that
17 property?

18 A. Yes. We lease that property from the
19 State Land Office.

20 Q. Does LES have any plans for that area?

21 A. We are currently looking at the
22 possibility of putting a solar facility there.

23 Q. Look at Exhibit E. This is the oblique
24 aerial. There is an oval-shaped area that lies to
25 the south of the LES building and parking lot area.

1 Do you see that?

2 A. Yes.

3 Q. What is that?

4 A. That is our storm water basin.

5 Q. What happens to that when it rains?

6 A. When we get a moderate rain it fills up
7 with at least several inches of water in the bottom
8 of it. If we get a real heavy rain I've seen it
9 fill up pretty close to the top.

10 Q. Is that storm water drainage pond ever
11 frequented by any wildlife?

12 A. Yes. When it gets water covering the
13 bottom of it you will get ducks, and you will also
14 see a lot of little green frogs. They end up
15 covering the floor of the parking lot there
16 practically.

17 Q. Can you refer to either Exhibit D or
18 Exhibit E, my question to you is can you point out
19 the entrance or entrances to the LES plant off of
20 Highway 176?

21 A. Okay. If you look at Exhibit E it is very
22 easy to see the east gate entrance, as we call it,
23 which is the main entrance. It is just a little bit
24 past the Texas border coming from your right as you
25 are looking at that piece of paper. It looks like

1 sort of an intersection there with a dirt road on
2 the south side. But there is the -- again, what we
3 call the east gate. We are -- about three-quarters
4 of the traffic the employee and contractor traffic
5 come through that gate. If you move over to D and
6 you look at the west gate. It is a little bit
7 harder to see but over towards the western side of
8 the plant, maybe if you will looked that where the C
9 is in C.K. Disposal and you went north and then hit
10 Highway 176 and then go to the west like an eighth
11 of an inch, you will see a dirt -- it looks like
12 dirt, it is not, but you will see the west entrance
13 and about a quarter of our traffic will come in
14 through that west entrance right now.

15 Q. Does LES have any plans to change its
16 entrance gate arrangements off of Highway 176?

17 A. Yes, we do. I was just showing you there
18 the west gate. The west gate was originally created
19 primarily for construction traffic. We had a lot of
20 delivery trucks, construction equipment coming in to
21 the facility, so for safety and security reasons we
22 had that so that they wouldn't interfere too much
23 with the employees and workers coming in the east
24 side over here. Now that the construction is
25 basically done, we are going to close down in a

1 couple of months that west gate. It also costs us a
2 little bit extra, my security force has to patrol
3 that. It also costs to have arms there, electronic
4 arms to raise and lower. So we are just going to
5 close that and move the entrance, the only entrance
6 over to the east side.

7 Q. What are the peak times of the day for
8 traffic going in and out of the LES gates?

9 A. Well, the standard working hours are
10 normally 8:00 to 5:00 and so you see most of the
11 employees, the workers coming in between 7:30 and
12 8:00 in the morning, so that is a peak period and
13 then in the afternoon around 5:00 is the peak
14 period.

15 Q. How far is it from the north -- north side
16 of the buildings, the LES buildings to the north
17 edge of Section 32, in other words, your north
18 property line?

19 A. I am estimating about half a mile.

20 MR. BOHNHOFF: I pass the witness.

21 MR. BROOKS: No questions.

22 MR. WOODWARD: No questions.

23 COMMISSIONER BALCH: I have a couple of
24 questions.

25

1 EXAMINATION

2 BY COMMISSIONER BALCH:

3 Q. Good afternoon, Mr. Cowne.

4 A. Good afternoon.

5 Q. I presume you were here when Dr. Turnbough
6 was testifying this morning?

7 A. Yes, I was.

8 Q. We were talking about the Sundance
9 facility, which is a Legacy disposal site, similar
10 in concept if not in implementation with what's
11 being proposed by C.K., the same kind of materials,
12 less strict control over them.

13 And he said that that site will be a
14 greater risk than the proposed C.K. site for an H2S
15 emission that could impact the URENCO facility.
16 When you put the -- when the URENCO facility was
17 built, I think that Sundance site was already there.
18 Do you have a plan in place for dealing with an H2S
19 emission from them?

20 A. We have an emergency plan that deals for
21 any type of emergency from off site, whether it be
22 from H2S, whether it be from a tornado, whether it
23 be from a tractor-trailer wrecking on 176 and
24 exploding or having gas vapors come out of it. We
25 have an emergency response organization and EEOC

1 that trains yearly. We have four rotating crews
2 that participate in that emergency response
3 organization. We also have 15 procedures for our
4 emergency response organization, and they train
5 under NRC inspection criteria and with NRC
6 inspections throughout the year to handle just about
7 any threat that can come. I am confident that we
8 could handle anything that is realistic.

9 Q. Without having to shut down and destroy
10 your centrifuges and all of that?

11 A. There are ways that we can handle that
12 without shutting down the facility, yes.

13 Q. For ten years you have been able to deal
14 with the risk from Sundance and then for some years
15 also Waste Control Specialists has been directly to
16 the east of you.

17 A. That is correct.

18 Q. They could have a hazardous waste spill,
19 toxic gases, radioactive waste as well, so I presume
20 you have a plan in place for those kind of impacts
21 as well?

22 A. We also have liaisons and work with those
23 organizations. Our security talk with their
24 security and our operations personnel both from
25 control rooms to those facilities, they frequently

1 talk to each other to see what is going on to make
2 sure that there is nothing that is happening at a
3 facility that we need to know about and vice versa.
4 It is a relationship that we build. But one of the
5 things you didn't point out was that at the facility
6 north is they are downwind of us and they also do
7 not have a line of sight. If you stand at the
8 facilities here and you look north, you cannot see
9 the Sundance facilities. That is important from a
10 plume formation and a plume traveling.

11 Q. They are downhill from you or uphill?

12 A. They are uphill from us and there is the
13 way the contour of the land is. As I said, you
14 cannot see their facility at all. It would be very
15 difficult for a plume to travel if the wind was
16 coming from the north to us without breaking it up.
17 To the C.K. facility to the south you can stand at
18 our facility and can look south for miles and there
19 is no terrain features that would break up a plume.

20 Q. But if you look at the diagram from the
21 wind, the wind is most commonly from the south?

22 A. That's correct.

23 Q. It really could be from any direction?

24 A. Theoretically.

25 Q. Not even theoretically. That is measured

1 wind. Direction of a weather station.

2 A. I live there and work there it comes from
3 the south almost all the time.

4 Q. H2S is heavier than air, so it goes
5 downhill also, so that would be a consideration but
6 in ten years you haven't heard an alarm or haven't
7 had an alert from Sundance?

8 A. No, I have not.

9 Q. I think that there would be testimony that
10 that was the case there as well.

11 So Rule 36 is far more comprehensive than
12 the previous 7.11 that was used in plant Sundance.
13 They are going to have much greater control on them.
14 I think Dr. Turnbough didn't testify that C.K.'s
15 facility would be a lower risk than Sundance and I
16 think that you haven't had a risk yet from Sundance.
17 There are ways to be prepared for H2S without having
18 to have your men or personnel leave site, there is
19 masks, things like that that can be that can be part
20 of a mitigation plan. So I guess my question really
21 is why is this C.K. site so much more of a danger
22 than Sundance or Waste Control Specialists for that
23 matter?

24 A. Well, I will go back to what I said before
25 about prevailing winds, okay. As Mr. Turnbough said

1 earlier, this is an industry where we deal with
2 safety. Safety is paramount. But safety is not
3 absolute. No facility, whether it is the oil and
4 gas or the nuclear facilities or nuclear industry
5 assures 100 percent safety. It is all based on risk
6 and probability. So when you put together your
7 plans for things like prevailing winds and
8 accidents, it is based on the higher probable
9 events. The higher -- there is a much higher
10 probability because of prevailing winds that if
11 there was leakage, hydrogen sulfide gas would come
12 from the south and go to the north, vice versa.

13 The other fact is that at the Sundance
14 facility it has a road going in that's several miles
15 long. You don't have the traffic problems that you
16 would at C.K. Disposal across the street where our
17 employees would have to deal with material, you
18 know, petroleum byproduct material on the highways
19 and also have to deal with the high traffic volume
20 from trucks and tractor and trailers as they come to
21 work in the morning and leave in the afternoons.
22 There is already a little bit of traffic congestion
23 there right now that we have been able to manager
24 with our sisters from WCS by putting up various
25 signs, flashing signs and things like that. So I

1 believe that the traffic situation would be worse if
2 C.K. than it would be with Sundance.

3 Q. So if there were to be actually any sort
4 of facility, oilfield facility that needs to have an
5 air quality permit, that goes through NMED, it
6 doesn't go through OCD. So that would be a separate
7 permitting process, I imagine they would have to go
8 through that and risk as you're aware, it is two
9 things; it is the hazard and then the likeliness of
10 the hazard occurring. At Sundance you might have a
11 higher likelihood of an H2S emission that would be
12 undetected but maybe it has less of a chance of
13 coming to you because of prevailing winds. The
14 stronger Rule 36 makes that sort of release less
15 likely, perhaps, at C.K. even though you're
16 multiplying it by higher wind. So there may be a
17 roughly equivalent risk and you haven't had that
18 risk in ten years.

19 I think that NMED permit process would, if
20 they go in there and they present an emissions
21 profile that would not meet minimum requirements,
22 they would have to do something different which
23 would make that even stronger as far as a risk of a
24 release of H2S, for example.

25 So, part of our process is to let those

1 organizations do their work and their process and
2 their public notice and we have to take care of
3 understanding how this current application addresses
4 public health, safety and the environment,
5 protection of water, things that are under our
6 purview. So we are trying to make sure we can
7 understand all of those components as well.

8 It sounds like you have got a pretty good
9 mitigation plan for just about anything that could
10 occur, tornado, act of God, hurricane, who knows
11 what. I think you could probably deal with a little
12 risk of H2S exposure as well.

13 A. Well, what I haven't seen, unlike what I'm
14 used to in a nuclear industry, I haven't seen the
15 detailed plans on how you implement something. When
16 we put together our facility license back and
17 submitted it 2003, okay, we had to have everything
18 put together. There had to be an emergency plan,
19 there had to be operations plans, there had to be
20 quality assurance plans, environmental plans so the
21 public could look at those plans and tell whether or
22 not they were safe or whether or not they felt
23 comfortable or whether it was adequate. I, as a
24 safety professional, I would like to be able to look
25 at those plans. I would like to be able to see

1 their operations training. I would like to be able to
2 see their procedures that they are going to be
3 using. I would like to see their whole scheme to
4 make sure that it is going to be operating safely.
5 Because as I heard one witness say earlier, things
6 are only as good as the people. And if you use blue
7 collar laborers to operate high tech equipment,
8 you're not going to end up with the safest facility.
9 Okay? So I would like to be able to see those plans
10 and those type of information to tell before it is
11 licensed, before it is issued.

12 Q. If this permit were to be moved forward,
13 then it would go to the NMED and it would go to
14 storm water control, it would go to the DOT and you
15 would get a chance to see those, those documents and
16 those procedures at that point. Unfortunately for
17 us we can't judge in advance how they are going to
18 look at those. All we can do is judge whether the
19 permit matches the requirements of Rule 36.

20 A. You segment to law, basically, the
21 accountability for the approval process.

22 Q. Whereas a nuclear regulatory policy I'm
23 gathering is much more comprehensive, more of a
24 monolithic agency that takes care of the entire
25 thing.

1 Thank you. I appreciate your discussion
2 on this.

3 EXAMINATION

4 BY COMMISSIONER PADILLA:

5 Q. Good afternoon, Mr. Cowne.

6 A. Good afternoon.

7 Q. Just a couple of questions as I was
8 listening to that back and forth with Dr. Balch, I
9 get the impression that you probably see the traffic
10 problems as being more of a problem more likely than
11 the H2S as far as they would impact daily
12 operations.

13 A. Well, as far as they would impact daily
14 operations that is probably true, so...

15 Q. I guess I will just ask you. Mainly which
16 of those do you think is the bigger problem, traffic
17 or H2S? I know we are not supposed to be discussing
18 other agencies purviews, but...

19 A. I believe that they're both significant
20 problems. Okay? From a daily standpoint of people
21 coming and going to work, I would agree that that is
22 a daily risk of the high traffic.

23 But if you noticed on the plats or the
24 overhead pictures that they have got, our parking
25 lot is on the other side of that storm water basin.

1 And I've heard a lot of discussion, I've read a lot
2 of the talk about the low levels of H₂S, okay? We
3 are not so much talking about the acute levels that
4 you would get from a release, although that is a
5 concern. I am interested in seeing the emergency
6 response procedures and the types of accident
7 scenarios that were done in the safety analysis to
8 see what type of accidents and what their releases
9 are from that. We have talked some about that in
10 here, but there is an inherent acute -- excuse me,
11 chronic exposure that our employees every day when
12 they drive in, they get out of their cars in that
13 parking lot which is right across, it is not too far
14 from the highway, they are going to be exposed to
15 some small levels of U₂S, right, excuse me, H₂S. So
16 are they going to be -- drop dead from their car
17 that day, probably not, but are they going to be
18 exposed every day they come to work hundreds of days
19 out of the year, years, after year, after year.
20 There are other industries in the United States that
21 have shown that chronic exposure like that can lead
22 to health issues and debilitating injuries and
23 health issues over a long period of time. I am
24 worried about that impact to our employees over a
25 long period of time. I don't want us to hide behind

1 the fact that, well, the, you know, the one time
2 accident injury levels or exposure limit is 100 ppb
3 or 10 ppm or whatever. I am concerned about what
4 the exposure levels would be at .00 ppb or .0 ppb.

5 Q. Do you disagree with the results of the
6 H2S assessment that put those numbers in parts per
7 billion?

8 A. I think we have got testimony that is
9 coming later today that will answer that question
10 for you.

11 Q. That may not be a question for you.

12 Dr. Turnbough spoke a little bit about
13 risk assessments being conducted by URENCO prior
14 construction. Were you involved in any of those as
15 far as they related to the Sundance facility?

16 A. I am glad you brought that up because our
17 license application was turned in, in 2003, okay?
18 Which means most of the -- which means our ISA
19 summary and our safety analysis report --

20 Q. Predated your time with the company.

21 A. Let me finish answering your question,
22 okay?

23 It means that in 2003 when our license
24 application was turned in, the ISA summary and the
25 safety analysis report was done, okay? What

1 happened after 2003 to 2006 was the discussions
2 between the Commission and our licensing people at
3 that time, okay, about questions on it. But the
4 analysis had already been done. So I find it kind
5 of hard to believe that LES was still talking about
6 the -- whether or not it was an appropriate
7 facility, the right place to build or whatever in
8 that time frame.

9 Q. But you weren't involved in any of that?

10 A. No. But what I did was when I came in, in
11 2006 I took over that responsibility from that Dan
12 Green and Rod Critch team, reviewed all the records
13 and implemented the license.

14 Q. Did you ever work with Dr. Turnbough?

15 A. No.

16 Q. Okay. Thank you.

17 A. Never heard of him until today.

18 EXAMINATION

19 BY CHAIRMAN CATANACH:

20 Q. Mr. Cowne, in looking at Exhibit E I want
21 to make sure I understand the facility layout. You
22 have got the main facility which is, you know, just
23 north of the storm water area. On the east side of
24 the facility you have what looks to be like a lot of
25 outbuildings and a lot of cars parked there. What

1 is that facility there?

2 A. Is that on E?

3 Q. Correct.

4 A. So that is the part of the of the aerial
5 photo that I said was out of date. That used to be
6 our construction trailers for the construction
7 teams. And if you go out there today and look at
8 it, it is nothing but sagebrush and grass and rock.
9 We've restored it back to the -- in accordance with
10 NMED requirements back as close to the normal
11 environment as possible.

12 Q. Okay. That has all be moved out?

13 A. Right.

14 Q. So, again, in looking at this picture, it
15 looks to me like your east -- east entrance into the
16 plant --

17 A. Uh-huh.

18 Q. -- is almost directly across from what
19 might be the entrance to the C.K. facility. Is that
20 your understanding?

21 A. It is close, yes.

22 Q. Okay. So with regards to your concern
23 about the employees, your main concern would be that
24 their exposure from walking to and from the cars,
25 their parking lot in and out of the building?

1 A. That is where they are going to be the
2 closest to any sort of plume or whatever that comes
3 across or any sort of natural drift across this
4 storm water basin. But up here on the facility you
5 will see two buildings. You will see the parking
6 lot with the cars and that two-story building right
7 there, that is our main office facility, training
8 facility and also our cafeteria. And so the
9 employees inside the plant area, you know, a couple
10 of times a day will walk through the security
11 building, that smaller building that is white right
12 on the left and go over to the campus commons
13 building and they walked on the outside to go do
14 that. There is a breezeway through that building.
15 You get from various sections of that building
16 through the outside. That is all exposed to the
17 ambient air. So I think there is, in addition to
18 going back and forth to work and being in the
19 parking lot, there is a lot of pedestrian activity
20 going back and forth between the inside of the plant
21 and the campus commons building where employees are
22 exposed to the atmosphere.

23 Q. Are there any workers that continually
24 work out of any facility out of the buildings?

25 A. Yes. We have what we call facility

1 maintenance people that take care of the grounds
2 around the facility. They do simple carpentry work
3 things like that. They come down to the fence row
4 here on the highway, they maintain, cut grass,
5 maintain the fence row, pick up trash, you know,
6 stuff like that. So they are there close to the
7 highway. We also have security personnel. We are
8 required by regulations, 10CFR95, to do patrols
9 throughout this area both outside the fence and
10 inside the fence. Most of the time that is done in
11 trucks or vehicles, but sometimes that is done on
12 foot depending on the scenarios that they are
13 implementing through their procedures.

14 Q. Are you concerned with any emissions that
15 might be drawn into the facility by HVAC equipment?

16 A. Yes, we will, and we are going to talk
17 about that later.

18 Q. Okay. Can I ask you about on the -- on
19 Exhibit E, the -- on the west side of this facility
20 it looks to me like there is two ponds.

21 A. Yes.

22 Q. Are those ponds? Can you explain to me
23 what those are?

24 A. Yes, sir. Those are lined ponds. They
25 are part of our discharge permit that we have with

1 NMED. If you look up behind, it is probably hard to
2 see in this. Let me look at the other picture. You
3 can't see it, but if you look up behind the main
4 industrial buildings, there is something called a
5 UBC pad. That is our cylinder storage pad. That is
6 where we store our feed and tail cylinders of
7 uranium hexafluoride. One of the discharge permit
8 requirements that we have with NMED is that any
9 runoff, any water from that pad goes into a lined
10 pond. And that is what those two ponds are over
11 there to the west. The water's channeled through,
12 you know, piping and drains in the concrete pad and
13 it goes there. It doesn't go down to the -- to the
14 storm water ponds. The storm water pond is stuff
15 that everything else other than this pad, basically.
16 This pad gets water from -- I mean, those ponds get
17 water from that pad.

18 Q. So what type of fluid is that? Is that
19 just basically fresh water?

20 A. Yeah, it is rainwater, yeah.

21 CHAIRMAN CATANACH: Okay. I don't have
22 anything further.

23 COMMISSIONER PADILLA: I just have one
24 more question, Mr. Chairman.

25

1 FURTHER EXAMINATION

2 BY COMMISSIONER PADILLA:

3 Q. Mr. Cowne, you talked about the building
4 trailers and everything on the eastern side of this
5 pad being removed.

6 A. Yes, sir.

7 Q. Is there anything that we don't see, you
8 know, the reverse of that, has there been any
9 expansion, major expansion that we don't see here
10 that you would like to address?

11 A. No. The last major construction project
12 that we did was that campus commons building that I
13 am pointing to you and told you about.

14 Q. That is the one that runs parallel to the
15 highway with what looks look like a darker brown
16 stripe on the bottom of the --

17 A. Yeah. That was our last one that we added
18 in and then what we call the site restoration
19 project that we just finished up last year was to
20 remove all of these construction trailers. And that
21 was a commitment we had with NMED to return the site
22 as close as possible to the original status.

23 COMMISSIONER PADILLA: Thank you.

24 CHAIRMAN CATANACH: Any other questions of
25 this witness?

1 MR. BOHNHOFF: I have a few.

2 REDIRECT EXAMINATION

3 BY MR. BOHNHOFF:

4 Q. Mr. Cowne, in the event of an emergency
5 based upon a hydrogen sulfide plume traveling north
6 from the C.K. facility and the LES employees needed
7 to evacuate, where would they go to get their cars?

8 A. They would go right into the parking lot
9 where the cars are.

10 Q. In other words, in the direction of the
11 plume?

12 A. That is correct.

13 Q. And I believe you testified that it is
14 your understanding that the LES driveway is proposed
15 essentially where that dirt road now exists. Well,
16 let me ask you. First of all, there is a dirt road
17 that runs down on Exhibit E on the oblique aerial,
18 the dirt road that runs down the east side of those
19 construction buildings that you were referring to
20 earlier. Do you see that?

21 A. Yes.

22 Q. Is that dirt road roughly on the east
23 section line for 32?

24 A. Well, it is hard to see by looking at
25 that, but our property line that the fence runs just

1 outside of the -- to the east of those trailers and
2 then that dirt road is actually on WCS property.

3 Q. All right. So, that east property line
4 Section 32, if it continues south that seems to form
5 the boundary between the vegetated area on the west
6 side, we are looking now south of the highway, the
7 vegetated area on the east -- on the west and then
8 the cleared area on the east. Do you see that?

9 A. Yes.

10 Q. Assuming that is the east boundary of
11 Section 5, if Mr. Ybarra testified yesterday that
12 the access road into the C.K. facility would run
13 alongside the east edge of the part of Section 32
14 that lies to the south of the highway and then into
15 Section 5, would you stand corrected? In other
16 words, the access road into C.K. runs down that east
17 edge?

18 A. Yeah, that is true. Yes, I would stand
19 corrected.

20 MR. BOHNHOFF: That's all I have.

21 CHAIRMAN CATANACH: This witness may be
22 excused. Thank you, Mr. Cowne.

23 (A recess was taken.)

24 CHAIRMAN CATANACH: Okay. We are ready to
25 go.

1 Mr. Bohnhoff, I turn it back over to you.

2 MR. BOHNHOFF: LES calls next Joe
3 Carrillo.

4 (Whereupon, the witness was sworn.)

5 JOE CARRILLO,
6 after having been first duly sworn under oath,
7 was questioned and testified as follows:

8 THE WITNESS: My name Joe, and M.
9 Carrillo, C-A-R-R-I-L-L-O.

10 DIRECT EXAMINATION

11 BY MR. BOHNHOFF:

12 Q. Mr. Carrillo, good afternoon. In addition
13 to giving us your name would you state your age?

14 A. My what?

15 Q. Your age. How old are you?

16 A. I am 60 years old.

17 Q. Are you appearing pursuant to subpoena?

18 A. Yes, sir.

19 Q. Where do you live?

20 A. In Eunice, New Mexico.

21 Q. How are you employed?

22 A. I was employed.

23 Q. How are you employed?

24 A. I am a corporate manager for Sundance
25 Services.

1 Q. Is that also called the Parabo facility?

2 A. That is correct.

3 Q. Tell us about your formal education.

4 A. I went to -- graduated from Alpine High
5 School in Texas. A young kid, I went to the Junior
6 College, took some classes computer classes and, you
7 know, I got married. I had to go full term, I
8 started working the oilfield.

9 Q. When did you graduate from high school?

10 A. In 1976.

11 Q. Okay. You don't need to go into a huge
12 amount of detail, but starting with 1976 when you
13 graduated from high school, can you summarize for us
14 your work history?

15 A. My work history, I went into construction.
16 I had uncles that operated heavy machinery. They
17 showed me how to operate machinery in the oilfield,
18 field locations for ExxonMobil. At the time it was
19 Mobil and Shell. After that I worked for them for
20 about seven years, then I went to work for Texaco
21 which is Chevron, and I worked to them for 21 years.

22 For 21 years I worked with them. I got
23 promoted, became a construction supervisor. I build
24 batteries for them in the oilfield. After that I
25 went to -- there was a layoff and I voluntarily took

1 a severance pay, paid bills that I needed to pay for
2 my son's operations that he had, and then I went --
3 as -- I completed a full year, I signed a contract
4 with Chevron not to go into the oilfield. I could
5 not be a pumper, I couldn't do anything for them.
6 So I contact H and R to see if I could become a
7 salesman and I became a salesman for one year.
8 After the one year was completed, the day it was
9 completed Cimarex contacted me by phone, I went to
10 work for them for six years.

11 Q. What is Cimarex?

12 A. Cimarex is one of the major companies
13 there in New Mexico, came into New Mexico when I
14 started working for them.

15 When I started working for them they had
16 about five employees. After I left six years later,
17 we were I think over 45, 60 employees, grew to about
18 600 employees. One of the largest companies right
19 now.

20 Q. And Cimarex does what? You might have
21 said it, I didn't get it.

22 A. It is an oil company.

23 Q. At some point did you leave Cimarex and go
24 to work for Sundance?

25 A. Yes. After six years I was contacted by

1 Sundance to see if I could go work for them. I
2 refused them three times. I wanted to stay with
3 Cimarex because Cimarex was a good company to work
4 for. And I just got persuaded to try something new
5 in life, so I joined Sundance Services.

6 Q. And when was that?

7 A. In 2008.

8 Q. And did you join them as the manager of
9 the Parabo facility?

10 A. Yes, sir.

11 Q. And you have been there ever since?

12 A. I have been there ever since.

13 Q. If you would, take a look at that black
14 notebook that is in front of you and turn to Tab D.

15 Do you recognize this as an aerial
16 photograph that depicts the Sundance Parabo facility
17 north of the URENCO plant?

18 A. Yes, sir.

19 Q. Is Sundance planning a new facility?

20 A. As far as I know, yes.

21 Q. And where would the new facility be
22 located in relation to the old or the existing
23 facility?

24 A. It is going west.

25 Q. If the new facility -- well, if you look

1 at this Exhibit D, does it show the location of the
2 new facility kind of in blue tint? Do you see that?

3 A. Yes.

4 Q. Do you see the blue tinted area?

5 A. Yes, sir.

6 Q. And is that where the new Sundance
7 facility would be located?

8 A. Yes, sir, as far as I know.

9 Q. How do you get to the existing Sundance
10 facility?

11 A. You go north -- you get on Highway 18. If
12 I am coming out of Eunice, you go north. You go
13 probably a tenth of a mile on Highway 18 north
14 towards Hobbs, and there is what they call Wallach
15 Lane, and you turn on Wallach. Wallach Lane is
16 owned by Mr. Wallach, and I think it is around
17 two miles you drive, a mile and a half, two miles to
18 the existing facility.

19 Q. Is Wallach Lane depicted here on
20 Exhibit D?

21 A. Yes, sir. It is right there, that little
22 road that goes right through the blue. That is a
23 highway, that is a paved road.

24 Q. If you would describe for me generally how
25 truckers bring in oilfield waste to your facility.

1 Where do they go and what do they do with it?

2 A. Well, they come from -- from every
3 direction, you know, north, east, west and south.
4 They go into Wallach Lane, they come into my
5 facility. When they come in there, they got -- we
6 got people there that they check in, they tell us
7 what they bring, and then we direct them to certain
8 pits to go and unload. And as they unload, after
9 that, they do their washouts and then at they go
10 out, back out that same road they came in.

11 Q. How long does the sign-in process take for
12 a truck?

13 A. Sign-in, it varies on the trucks that are
14 there at that time, but I would say most of the time
15 it would be about six minutes to five minutes.

16 Q. And then how long does it take them to
17 unload the waste?

18 A. On tankers it will take them about 15
19 minutes. On contaminated dirt it will take them
20 maybe another ten minutes, you know, it is a fast
21 part because we try to bring them in, take them out.

22 Q. So the contaminated dirt would be a total
23 of 25 minutes?

24 A. Yeah. By the time they go to where they
25 dump, about 25 minutes.

1 Q. Then you said there was a washout after
2 they unload?

3 A. Yeah. Most trucks that bring -- well,
4 bring liquids, before they go to another job they
5 have to wash their trucks out. So, they wash their
6 trucks out to go to the next existing job. That is
7 required by their company to do that.

8 Q. How long does the washout take?

9 A. It will take them maybe 20 minutes to over
10 an hour. I have seen guys take seven to eight hours
11 washing out their trucks because they brought cement
12 in their trucks.

13 Q. Do you ever have an experience where
14 trucks -- where the truck comes in and they unload
15 in five minutes or so and they unload in 15 to 25
16 minutes, but then during the washout a backup forms?

17 A. Yes, that is very common. Because of what
18 I am just expressing on -- there are trucks bringing
19 drill cuttings, cement or a frac job, you know, that
20 is what keeps the backup. We back them up to about
21 a mile, sometimes over a mile.

22 Q. Is the Sundance facility open 24/7?

23 A. Yes, sir.

24 Q. Currently, say, the past month or so what
25 is the typical range of truck traffic over a 24-hour

1 period at your Parabo facility?

2 A. We are averaging over 100 tucks, about
3 113, 114 trucks per 24 hours.

4 Q. All right. So if that is the average, can
5 you give me the range? Do you end up on some days
6 having more than 113, 114 trucks?

7 A. Yes, sir. There is -- according to the
8 jobs the companies are doing, either they are
9 bringing a lot of dirt and you have got all your
10 trucks are coming in with liquid, I can see over --
11 over 200 trucks or more, up to 300 trucks.

12 Q. Currently?

13 A. Currently in 24 hours.

14 Q. The current time frame that we are in,
15 early 2017, late, 2016, relative to other periods of
16 time, is this a busy time for the oil industry in
17 the Permian basin?

18 A. No. Right now we are at a slow point.
19 This is the slowest I have seen it since 2008, 2009.

20 Q. Compared to today, what was the level of
21 traffic at your facility back in 2014 when the price
22 of oil was much higher?

23 A. Oh, it is a lot of difference there.
24 You're looking at over -- add another hundred to it,
25 you know, we are talking about 200 to 300 trucks.

1 Q. Did you ever get any more than 300 trucks
2 coming to your facility?

3 A. There was a lot of times I got more than
4 that. It was so hard that we couldn't handle the
5 traffic. People were complaining all the way down
6 to that Wallach Lane because we have a neighbor that
7 is premium material, which was Wallach. We had, you
8 know, like he complained that our trucks were
9 stopping there, we were stopping traffic. I mean,
10 they -- not us, but the people that were coming in
11 for other companies.

12 Q. Is your truck traffic, the trucks that are
13 coming into your facility, is it constant throughout
14 the day or do you have a rush hour period or peak
15 traffic periods?

16 A. No, it is not. It is always constant, you
17 know, it is hard to predict what they are going to
18 bring. The major oil companies either they are
19 hauling contaminated soil, they are hauling, you
20 know, they have done a frac job or they -- drill
21 cuttings and, you know, they are drilling, the
22 drilling companies are coming back, drilling so
23 everybody knows that. You know, we got more rigs
24 coming into New Mexico. I just got informed Devon
25 is bringing ten, Apache brought -- last week brought

1 two, and, you know, Chevron is also going to be
2 drilling, and there is another company that is going
3 to drill around ten wells more right around Eunice
4 area.

5 Q. So, if I understand you, there isn't a
6 period of a -- period of the day, morning or
7 afternoon or evening where typically you get more
8 traffic than others?

9 A. I would say mornings and also in the
10 afternoons. If you were going to say what was the
11 most traffic, it would be in the mornings and the
12 afternoons. I would say it starts about 2:30 until
13 about 8:00, 10:00. But that is when everybody wants
14 to wash out, clean lthere trucks before they go to
15 the next job.

16 Q. 2:30 in the morning to 8:00 in the
17 morning?

18 A. It is from about 8:00 until 10:00 at
19 night.

20 Q. Do you have any understanding as to on the
21 days when you have heavy traffic, for example, you
22 stated that your average traffic currently is 110 or
23 so, but you can have days when it is 200 trucks a
24 day. Do you have any understanding as to what
25 causes you have to have a lot of trucks in a day?

1 A. No, that is all by the oilfield. You
2 know, the major companies are doing something, I
3 can't control it. I can't control traffic. They
4 come to unload. If they don't -- if we don't
5 provide them a place to dump and we hold up traffic,
6 there is a lot of people that just go off to the
7 side and I've caught them where they are unloading.
8 You know, we have to patrol that load because they
9 will unload. They don't care. They want to unload
10 and go to the next job. You know, I have oil
11 companies tell me, "Are you shut down? I say, "No
12 sir." He say, "They are telling me you're shut." I
13 said, "No, we are full force."

14 MR. BOHNHOFF: Mr. Catanach, at this time,
15 I want to show a video clip that I have on a disc.
16 It is -- copies of the disc have been included in
17 all of the exhibit notebooks. It is Exhibit J. I
18 need a few minutes here to queue up the projectors.

19 CHAIRMAN CATANACH: Any concerns with that
20 or objections or anything?

21 MR. BOHNHOFF: I'm going to ask the
22 witness to identify it, lay the foundation.

23 MR. BROOKS: We have no objection.

24 MR. WOODWARD: I am not sure of the
25 relevance. I think that --

1 CHAIRMAN CATANACH: Okay. He said he was
2 going to lay the foundation, so maybe that will
3 help.

4 MR. BOHNHOFF: I will have to say in
5 advance, Mr. Catanach, that I need to show the video
6 to the witness so that the witness can identify it
7 as a video that he took. Obviously the video is
8 going to be shown and people are going to be seeing
9 it, but before it comes into evidence, I will lay
10 the foundation through the witness.

11 CHAIRMAN CATANACH: What is the nature of
12 the video?

13 MR. BOHNHOFF: The video clip shows a --
14 and it is short. It is like ten seconds long, but
15 it shows this line of traffic Mr. Carrillo has
16 talked about.

17 MR. WOODWARD: I am not understanding the
18 necessity for it. We received the testimony about
19 the truck traffic is coming in and we are once again
20 going off into an area of -- that is outside the
21 regulatory purview of this agency. You know, it
22 sounds like business is really good and we need some
23 more of these facilities, but I don't know if we
24 want to get talking about traffic and the issues
25 pertaining to traffic on 176.

1 MR. BOHNHOFF: Obviously it goes to
2 safety.

3 CHAIRMAN CATANACH: I am interested in the
4 dumping issue.

5 COMMISSIONER BALCH: I can imagine what a
6 mile of backed up trucks looks like.

7 MR. BOHNHOFF: Respectfully, Mr. Catanach,
8 a picture is worth a thousand words and this does go
9 to the question of safety, which I think we
10 established yesterday was within the purview of the
11 Commission, notwithstanding the fact that the
12 Transportation Department access permitting was
13 determined not to be.

14 CHAIRMAN CATANACH: Okay. I don't have
15 any issue of watching the video. I think we should
16 go forward with it.

17 MR. BOHNHOFF: Thank you.

18 (Whereupon a videotape was played.)

19 Q. (By Mr. Bohnhoff) Mr. Carrillo, take a
20 look at this clip.

21 Mr. Carrillo, do you recognize that video
22 clip?

23 A. Yes, sir. It was taken at my site.

24 Q. And, I'm sorry, did you take that video
25 clip?

1 A. Yes, sir.

2 Q. When did you take it?

3 A. I took it -- I can't actually remember, it
4 was around the boom time, less than a year ago or
5 about a year ago when the oil prices was high.

6 Q. Is that video clip a fair and accurate
7 depiction of the conditions, including traffic, at
8 the Parabo facility on that day?

9 A. Yes.

10 MR. BOHNHOFF: Mr. Catanach, I would move
11 the admission of LES Exhibit J.

12 CHAIRMAN CATANACH: Objections?

13 MR. WOODWARD: Yes, sir, we object. We
14 think it is irrelevant to the issue before this
15 Commission, and that is whether the C.K. Disposal
16 application complies with the provisions of Part 36.
17 This is not the C.K. Disposal facility. It doesn't
18 represent anything proposed by the C.K. facility and
19 it really doesn't add anything to your
20 consideration.

21 CHAIRMAN CATANACH: I think we will
22 disallow that to be admitted as evidence.

23 Q. (By Mr. Bohnhoff) Mr. Carrillo, does
24 Sundance contract with oil producers to pick up,
25 itself pick up oilfield wastes with its own fleet of

1 tanker trucks?

2 A. No. We do help out once in a while but we
3 don't. That is too much traffic for us to -- I
4 don't have the manpower to do it.

5 Q. Let me ask you this: Do you have some
6 tanker trucks that are parked on your facility?

7 A. Yes, sir.

8 Q. And what are those tanker trucks used for?

9 A. They are to move my water around there on
10 the ponds and skim all the oil out of them and run
11 it through the centrifuge.

12 Q. Have you experienced any corrosion
13 problems with those tanker trucks?

14 A. Yes, sir. There is a lot of corrosion. I
15 got 2015, 2016 trucks that are very corrosive. As
16 you-all know, the chlorides on the water that comes
17 in, you know, you got chemicals, you got all sorts
18 of stuff on fracking, I have to replace starters,
19 you know, batteries, computers on the trucks, you
20 know, because of the corrosive that is out there.

21 Q. How long will a truck last on your
22 facility?

23 A. I bought some in 2005 and I had to
24 replace, this year I had to replace them. They were
25 2005 models, I had to replace them.

1 Q. And you mentioned a 2015 truck?

2 A. Yeah, yeah. There were 2005, I replaced
3 them this year with some new trucks because they are
4 all falling apart. You know, the motor is good but
5 everything else, computers, and everything, they
6 just -- it is very corrosive.

7 Q. I want to make sure your testimony is
8 clear. Earlier a little bit I thought you had
9 mentioned that you had bought a new truck in 2015,
10 two years ago?

11 A. Yeah.

12 Q. Have you had any corrosion problems with
13 the 2015 truck?

14 A. Yeah, 2015, 2016s. I always have problems
15 with them, always.

16 Q. But what you are telling me is you also
17 bought some trucks back in 2005?

18 A. The 2005, I used them out there. You
19 asked how long they last. Well, those 2005, I
20 bought three trucks for my plant workers. And --

21 Q. And when did they --

22 A. I took them out this year out of service
23 and we will sell them as junk.

24 Q. And are you attributing the corrosion
25 problems to the chlorides in the water?

1 A. Yes, sir.

2 Q. Have you taken any steps to address this
3 corrosion problem?

4 A. I have. What I am doing know off of --
5 right off the Highway 18 since we own the land or,
6 you know, we -- I put a yard out there. I am moving
7 all my equipment off Sundance and parking it at the
8 highway away from Sundance because of the corrosion
9 that is in that air there.

10 Q. The highway a couple of miles away?

11 A. It is down about two miles away to the
12 west.

13 MR. BOHNHOFF: I pass the witness.

14 CHAIRMAN CATANACH: Mr. Brooks?

15 MR. BROOKS: No questions.

16 CHAIRMAN CATANACH: Mr. Woodward?

17 CROSS-EXAMINATION

18 BY MR. WOODWARD:

19 Q. I have a few questions. Good afternoon,
20 Mr. Carrillo. I am Mike Woodward, counsel for C.K.
21 Disposal. How long has the Parabo facility been in
22 existence?

23 A. You know, I don't know. When I came from
24 high school, I was a young kid at 18 years old, so I
25 imagine -- I didn't do a trace back. I haven't even

1 looked at it. I came to work in 2008 and I came to
2 take care of the plant, not to find out the history
3 of the plant.

4 Q. Okay. Is it -- do you have an idea has it
5 been there since the 1970s?

6 A. All I know when I worked for Chevron
7 Unichem, I heard Unichem owned it, they were the
8 owners of it. Other than that I really don't know.
9 I mean, we as production foremans, we didn't go out
10 there and visit the facility. We had people what
11 would do that.

12 Q. So you think it's been there since the
13 1970s some time?

14 A. Somewhere in the -- I know since '76 since
15 I know when I went there it was there.

16 Q. Do you know if this facility -- if any of
17 the ponds are lined?

18 A. None of the ponds are lined. It is
19 grandfathered in with the red clay.

20 Q. It sounds like you are really busy.

21 A. It is a busy industry.

22 Q. So this facility is not constructed to the
23 new standards that have been adopted by OCD?

24 A. As far as I know, no. No, it's that got
25 red clay under it, that is why it made the other

1 companies come around us.

2 Q. Does the -- do you at the Sundance
3 facility monitor for H2S?

4 A. Yes, sir, we do.

5 Q. And how do you monitor for the H2S?

6 A. We take samples, we keep records of it.

7 Q. How do you take the samples?

8 A. With a Geiger counter or with an H2S
9 monitor.

10 Q. Is it a constant monitoring or do you --
11 how do sample?

12 A. We sample once a week. We always go out
13 there and sample our ponds and everything else.

14 Q. Do you sample the liquids for H2S?

15 A. No, we don't.

16 Q. Do -- have you ever had an exceedance of
17 any regulatory threshold for H2S?

18 A. No. The only thing that comes with H2S, I
19 think everybody has misunderstood here. H2S is ten
20 parts per million. Ten parts per million kills your
21 senses, you can't smell it. And H2S doesn't come
22 from where the water is standing still, it comes
23 from unloading. If you got a truck unloading, that
24 is where your H2S comes. There is no way that you
25 can take H2S and put a chemical. If that was done

1 Chevron would have done it, Apache, Cimarex, you
2 know.

3 Q. I'm sorry, I don't understand.

4 A. What I am saying is I heard awhile ago
5 that, you know, you can put some kind of chemical or
6 something and knock the H2S down or something like
7 that. It can't be done or it hasn't been done. You
8 know, H2S is -- if you mix it or by some reason you
9 unload it into it and you start mixing it, H2S will
10 come out off your trucks. Your trucks are the ones
11 that bring your H2S. The unloading, even water,
12 produced water, and that is where you get your H2S
13 readings.

14 Q. Is from the unloading?

15 A. Is from the unloading.

16 Q. Is that where you-all measure for H2S is
17 at the unloading?

18 A. We measure for the safety of our
19 customers.

20 Q. So you don't have an H2S problem in your
21 ponds?

22 A. Not normally, only on a real hot day we do
23 have that because you got to remember they bang --
24 all sorts they got to condensate oil. You know what
25 condensate oil is?

1 Q. Uh-huh.

2 A. Okay. Condensate oil is a high gravity
3 oil. You know, and if you get condensate on a
4 truck, by the time you get it to the facility a
5 tanker, you lose like 5 or 10 percent, evaporates
6 and your water also carries a lot of H₂S. And once
7 you start unloading, it just, you know, it goes
8 everywhere, you know, H₂S is a -- it stays low. You
9 know, it doesn't go up and it travels. And all of
10 the employees and all the truckers for any oil
11 company, that is what they -- we go to schools, we
12 try to teach them to carry a monitor. If you got a
13 monitor that says ten parts per million you go
14 upwind from it. Get away as far as you can. And we
15 stress that out to everybody that comes to the
16 facility. If we got an H₂S problem, move away, let
17 us go out there and check it so you can go back and
18 do your work.

19 Q. How often do you experience H₂S problem as
20 you describe it?

21 A. It all depends on who is hauling the
22 liquids.

23 Q. Is it daily? Do you have an H₂S problem
24 daily?

25 A. You know, Southern New Mexico is known for

1 there H2S. You know, your trucks are going to bring
2 H2S. You know, it is a problem. They know it
3 already, most of the employees, because the
4 companies are -- teaches them. They went to schools
5 for them. That is something that, you know, they
6 are very aware of it.

7 Q. So you're able to safely manage the H2S at
8 your facility?

9 A. Yes, what we can. I mean you can never be
10 too safe or safe, you can't say I am safe and
11 something happens.

12 Q. Do you go to the plant almost every day?

13 A. Every day.

14 Q. Have you experienced any systems of H2S
15 exposure?

16 A. I am not around the H2S that much, you
17 know, I am at the plant, but I am away from the
18 ponds. I am in my office.

19 Q. How far away from the ponds are you?

20 A. I am about half a mile from the ponds
21 where they unload.

22 Q. So you don't have a concern of H2S
23 exposure?

24 A. Yeah, I always got a concern. I've got a
25 concern for my people that work in the office.

1 Q. For you, a half a mile away?

2 A. Of course, I have a concern.

3 Q. But have you -- so you go there every day,
4 I am just trying to find out if you have experienced
5 any sickness or ill health or affects because of H2S
6 exposure?

7 A. I have never been checked, you know, I
8 have never went to a doctor to say "check me for
9 H2S."

10 Q. So you don't know?

11 A. I don't know.

12 Q. You're not a chemist, right?

13 A. You're correct.

14 Q. You are not an engineer?

15 A. That is correct.

16 Q. But you are around H2S every day?

17 A. That is correct.

18 Q. Would it be safe to say that just about
19 everybody who lives in Eunice is around H2S every
20 day?

21 A. I don't know. I don't know where they
22 work or what they do. I only work at a facility
23 where H2S comes to my facility.

24 Q. I was down there in early January and went
25 to eat at Debbie's, went to have steak fingers

1 there.

2 A. Uh-huh.

3 Q. And in the parking lot I noticed a smell
4 it was kind of like rotten eggs, had a smell. Was
5 that -- was I smelling H₂S?

6 A. That is what they say H₂S smells like,
7 rotten eggs. If you are from here, I come to here
8 and I smell this Santa Fe clean air, God it smells
9 good. You go back there, oh, my God. You get used
10 to the smell. People are used to the smell. That
11 is why they carry H₂S monitors --

12 Q. Okay.

13 A. -- to detect the H₂S.

14 Q. Does Sundance have any groundwater
15 monitoring around those ponds?

16 A. Yes. We got over 165 monitor wells.

17 Q. Has Sundance ever released any of its oil
18 offsite from this property?

19 A. No. Not off the site of the property, no.

20 Q. Haven't had to engage in any remediation
21 offsite property?

22 A. Well, on the outside property.

23 Q. On somebody else's property?

24 A. No, sir.

25 Q. There was -- I was standing at the

1 entrance to the URENCO facility when I was down
2 there in early January. And you look through the
3 main gate and there is a big mound behind the
4 building?

5 A. Uh-huh.

6 Q. I believe that is on your property. Is
7 that a waste disposal facility?

8 A. Yes, sir. If you look, there was two
9 mounds. S it is kind of hard to see it. When did
10 you say you went?

11 Q. Early January of this year.

12 A. You couldn't have seen it. There is no
13 way you could have seen it because there was a hill
14 behind URENCO that they have knocked down. They
15 were -- they finally leveled it all off and done
16 that. But, yes, there is a hill behind that other
17 hill. There is two hills there and it is
18 contaminated soil.

19 Q. But you can see it from the highway now?

20 A. You can see it now, yes, because they have
21 cleaned up their place. They moved trailers, they
22 move their -- they have done a lot of work.

23 Q. Is there a closure plan for the Sundance
24 facility?

25 A. As far as I know, yes, there is a closure

1 plan.

2 Q. Do you know if there is a financial
3 assurance requirement for that closure requirement?

4 A. I do not get into the money aspects. They
5 don't provide that information to me.

6 MR. WOODWARD: I have no further
7 questions.

8 MR. BROOKS: I would like to ask a
9 question as a follow-up.

10 CROSS-EXAMINATION

11 BY MR. BROOKS:

12 Q. You were asked about the frequency of H2S
13 issues and I don't believe that question ever got
14 answered. Have you -- since you have been manager,
15 have you ever found it necessary to evacuate your
16 facility because of H2S?

17 A. No, not evacuate but I've moved employees
18 away from the sources where it is coming from.

19 Q. You have moved what?

20 A. Employees to get away from it.

21 Q. But still on the premises?

22 A. Still on the premises. Go upwind. We got
23 a way to go upwind.

24 Q. Okay. Do you have -- have you had any
25 workers' compensation claims made by reason of H2S

1 exposure?

2 A. Not that I know, sir.

3 MR. BROOKS: Thank you.

4 COMMISSIONER BALCH: I got a couple of
5 questions.

6 EXAMINATION

7 BY COMMISSIONER BALCH:

8 Q. Good afternoon, Mr. Carrillo.

9 A. Yes, sir.

10 Q. So your H2S monitoring is weekly at the
11 ponds just to check, never detect anything, right?

12 A. Uh-huh.

13 Q. Then when a truck comes in and unloads,
14 you monitor right then to make sure that it is safe
15 for your people to be in there.

16 A. Uh-huh.

17 Q. Do you do any monitoring around the
18 periphery of your site?

19 A. Yes, sir, we do.

20 Q. What schedule is that on?

21 A. That's also once a week.

22 Q. Somebody goes out there with a instrument?

23 A. Yeah, take samples and records them.

24 Q. And records them.

25 A. Yes, sir.

1 Q. Did you ever have anything -- what was the
2 highest measurement that you can remember being
3 found in one of the edges of your site?

4 A. One time one of my employee said it was a
5 real hot day down, you know, up there, it gets 105,
6 110, you know, and the wind was blowing, moving the
7 ponds, the water, I think we recorded like 60 parts
8 per million.

9 Q. At the edge of your facility?

10 A. Right close to the ponds. Not at the edge
11 of the facility. The facility, it was recorded
12 lower than that.

13 Q. Do you remember what it might have been on
14 that particular day?

15 A. Once they told me it was around 60, I told
16 them not even to get -- go downwind and record
17 anything until everything was safe.

18 Q. Right. So you mentioned a lot of trucks
19 coming in there one to 200 right now, up to three to
20 400 on really busy day and boom time?

21 A. Yeah. During boom time, yes. Right now
22 we are averaging about 113, 120, 130 trucks.

23 Q. You said most of those were liquids?

24 A. Most of them are liquids right now. The
25 majority are liquid right now.

1 Q. Sort of long-term if you think about the
2 whole time you have been there, what percentage is
3 solids and what percentage is liquid in the trucks?

4 A. I think it is maybe liquid is around
5 80 percent.

6 Q. At your site, they basically offload the
7 liquid, it goes straight into the pond?

8 A. Yes, sir. They got different ponds that
9 we put them because we got to skim the oil off of
10 the water.

11 Q. But there is no separation of gases or
12 anything like, that they just go straight into the
13 ponds?

14 A. They go straight in the pond, yes.

15 Q. How many facilities like Sundance are
16 there in Southeast New Mexico? Where can you go to
17 get rid of this kind of waste?

18 A. The other facility that I know of is R360.

19 Q. Just the two of you right now?

20 A. And Gandy I think is the other one, Gandy,
21 Marley, Gandy, something like that.

22 Q. That is the newest one, right?

23 A. I really don't know if it was R360 or
24 Gandy who came into. I really don't know to be
25 honest.

1 Q. So if people build more facilities like
2 this it ought to decrease your workload a little
3 bit. Some of the trucks would go to C.K. instead of
4 to you, right?

5 A. I really -- I don't know. I can't -- it
6 is up to the oil companies who they go to. I have
7 no control of that.

8 COMMISSIONER BALCH: Thank you.

9 EXAMINATION

10 BY COMMISSIONER PADILLA:

11 Q. Good afternoon, Mr. Carrillo.

12 A. Hi.

13 Q. Just a couple of questions. How many
14 acres is the Sundance facility just so I can get a
15 sense of the scale versus the C.K.

16 A. I think it is over 600 or something like
17 that, 640, something like that. I am not
18 particularly sure. I know we got a lot of land.

19 Q. Okay. And there is no injection well on
20 the Sundance?

21 A. No. We had one but we had to plug it
22 because it didn't pass the State inspection. I
23 mean, it was -- it wouldn't take water. We -- when
24 I was with Chevron we tried a frac well on the east
25 side of Highway 18, and we couldn't we couldn't frac

1 wells. And I think Sundance tried to do the same
2 thing before I was there and they said they -- they
3 would take maybe a load of, and after that they
4 couldn't -- it wouldn't take no more water and they
5 were -- by the State, you know, you got your limits
6 that you have got to abide by.

7 Q. The MIT test?

8 A. Yes.

9 Q. So it failed the MIT and shut it down.

10 A. Yeah, they shut it down.

11 Q. Okay. The truck that you talked about you
12 just replaced your 2005s last year.

13 A. Last year, yes, sir.

14 Q. What kind of trucks are those?

15 A. They are Mack trucks.

16 Q. Tanker trucks?

17 A. Tanker trucks, sir.

18 Q. So you get ten, 11 years, is that typical?

19 A. Yeah. Yes, sir. Dozers, loaders,
20 maintainers. I bought a 2000 -- I think it was a
21 2013 loader and it looks like a 2001, because of the
22 corrosive that is there.

23 Q. Some of them have problems a lot sooner
24 than the other ones?

25 A. Yeah. The closer they are to the source

1 more corrosion you get.

2 Q. Having spent time in the oilfield, 12
3 years on a truck sounds like quite a lot to me, but
4 three years is not so good.

5 A. Yeah, but they are not moving. They are
6 moved within a mile.

7 Q. They are not taking a lot abuse?

8 A. They don't take like, you know, cross
9 country or something like. That it is right there
10 within the site.

11 Q. Okay.

12 COMMISSIONER PADILLA: I think that does
13 it for me. Thank you.

14 EXAMINATION

15 BY CHAIRMAN CATANACH:

16 Q. Mr. Carrillo, what do you think that is
17 causing the trucks to be corroded?

18 A. It is the chlorides, the water, you know,
19 the particles that float in the air from the wind
20 and everything. I have seen employees complain to
21 me on a windy day when the trucks are unloading
22 telling me their windshield gets like a film of
23 salt, you know, and I let them wash there at my site
24 their windshields and all of that. We got fresh
25 water so they can wash them.

1 Q. Would that be just as a result of some
2 overspray or something, I mean that type of --

3 A. No. It is the particles that comes out of
4 those ponds.

5 Q. You think that the chlorides are getting
6 airborne out of the ponds?

7 A. Yes, sir.

8 Q. Do you monitor every truck that comes in
9 for H2S?

10 A. No, sir, we -- we don't monitor the
11 trucks. You know, the trucks themselves, you know,
12 their employees, the companies, you know, they
13 monitor their own trucks, their own. You know, we
14 just -- we just check for H2S where they are
15 unloading for the safety reasons.

16 Q. How frequently is that?

17 A. We do it -- like I said, we do it once a
18 week. You know, we don't monitor every truck that
19 comes in. You know, we couldn't put a person out
20 there, you know, 24/7, you know, and they are well
21 trained by their companies. You know, they know
22 what to do in case of an emergency and to notify
23 somebody, you know, in our facility, let us know
24 that there is H2S there and there are people that
25 have called us and say I am getting a lot of H2S on

1 my monitor, do you mind if I stay here another hour,
2 two hours so, you know, maybe the H2S will die out.
3 And that is what also causes new trucks to, you
4 know, we have to stop everybody from going in there.

5 Q. Let me ask you about the fluid in your
6 ponds. Is that -- has that fluid gone through a
7 separation where the hydrocarbons have been stripped
8 within that produced water? Has it been separated
9 or is that -- are those ponds, do they have water
10 that has hydrocarbons in them?

11 A. Yeah, that is how it is.

12 Q. You skim off those ponds?

13 A. We skim the oil off of it. We try to skim
14 them and clean off the water and let it evaporate.

15 Q. There isn't any kind of treatment for that
16 water when it -- for that tank when it comes in with
17 that produced fluid?

18 A. No.

19 Q. It gets dumped in the pond and then
20 skimmed?

21 A. In the pond, yeah.

22 Q. And the result -- you have testified that
23 the major problem with the ponds would be during the
24 summer when it was hot weather?

25 A. Yes, sir.

1 Q. And that is when you noticed that most of
2 the H2S was coming off during that period of time?

3 A. Uh-huh. Or somebody, you know, the wind
4 or the way the wind blows the water because you can
5 see the ripples in the water.

6 Q. And during that time do you monitor at
7 more frequent intervals for H2S?

8 A. Yes. If it is reported to us by any
9 employee because all my employees have H2S monitors
10 with them. Every trucking company that comes in
11 there, they have H2S monitors. That is known in Lea
12 County, Eddy County. Every trucker you meet out
13 there is going to have an H2S monitor, you know,
14 that is a mandatory for every company.

15 Q. So what is the major type of fluid that
16 you guys are accepting out there, is it mostly
17 drilling mud, drilling fluids, tank bottoms?

18 A. Yeah, tank bottoms, drilling fluids, drill
19 cuttings. We get -- you know, after a frac job, you
20 know, solids what they consider solids which is
21 liquid and solids. I don't accept no produced
22 water. I can't handle the produced water. There is
23 no way. I don't have the ponds big enough. I would
24 be shut down within, I would say, maybe three weeks
25 to four weeks, three weeks, I would say three weeks

1 Sundance would be shut town if I accepted water.

2 Q. So it would probably be more economic for
3 a trucker to take produced water to a well than to
4 your facility?

5 A. Yes, sir. The only time they go to me if
6 they got solids and they are turned down by the
7 company that owns that produced well. They don't
8 want to plug it, you know, they got mud in their
9 trucks they didn't wash their truck out and they go
10 dump it into their well and they, you know, plug the
11 well and they cost a lot of money.

12 Q. Mr. Carrillo, you talked about instances
13 where there is material dumped on your road coming
14 into your facility?

15 A. Uh-huh.

16 Q. How often does that happen?

17 A. It does happen, you know, it --
18 occasionally it does. You have to go hunt, you have
19 to go clean it up, you know, it does, and you always
20 are fighting people not closing their valves after a
21 washout or they unload mud, the truckers, you know,
22 they leave and you can -- you know, we got our
23 personnel, they have to go by our office, they call
24 us. We have got to follow them before they get to
25 the main highway or before Wallach starts calling us

1 that you got a truck that is downloading down the
2 road.

3 Q. Do you usually catch those people that are
4 doing that?

5 A. The majority, yes, we do them and we tell
6 their company that they are no longer allowed in our
7 premises and they let them go. Unfortunately, they
8 do that. I mean I hate to see an employee lose
9 their job but, you know, any kind of mud on those
10 roads, you know, it gets slippery, it causes
11 accidents, you know, and those are just trucking,
12 they are not -- they are just truckers that is all
13 they are. They are not like you that have never
14 been where the mud is, you know, slippery, you know,
15 and most of those trucks, you know, they go unload,
16 they got mud on their trucks, so I got a long
17 stretch so they can -- by the time they get to the
18 main roads, you know, they -- they have already got
19 their tires off the mud or something like that, and
20 I got a loader that I go scrape the highway to keep
21 it clean.

22 Q. When the trucks wash out, when they wash
23 out their trucks is that contained within a separate
24 pond or how do you deal with that?

25 A. Well, no, I put in it a separate pond

1 because normally when they go wash out, they got
2 oil, they got chemicals, they got something inside
3 their truck. We try to skim as much oil as we can
4 and then we move it to a different pond, and then we
5 leave it there, and then we will try to get all the
6 water out of it, and the oil out of it. It is a
7 progress, you know, it is not -- it is not an easy
8 job from a trucking. I wish it was, but we have
9 never found a solution for that because you get
10 plastic, you got plastic bottles, you get everything
11 they can throw in there.

12 Q. So you think it is a good idea for this
13 type of facility to have a truck wash?

14 A. I don't know if it would benefit anybody.
15 I don't know if the oil companies would pay that
16 kind of money. You know, you're looking if you were
17 to wash every truck that comes through there, you
18 would never make a profit, you know, the water bill,
19 my water bill runs -- I just got a water bill that
20 was \$8,900 for last month of water, fresh water.
21 That is me washing my trucks, running my centrifuge
22 and providing water for the people that come and use
23 the bathrooms and everything.

24 CHAIRMAN CATANACH: Okay. I have nothing
25 further. Is there anything further?

1 MR. BOHNHOFF: Redirect.

2 REDIRECT EXAMINATION

3 BY MR. BOHNHOFF:

4 Q. Mr. Carrillo, when you have a rainstorm do
5 you end up having your trucks tracking mud as they
6 leave the facility and back out onto Wallach Road?

7 A. Oh, yes.

8 Q. When they track mud do they also have a
9 tendency to track oil as well?

10 A. Yes. Because that is a -- the whole --
11 any facility anywhere, you know, those are the
12 trucks that go into the oilfield, they unload, they
13 go over, you know, they -- on their washouts, you
14 know, they track oil, they track produced water, and
15 everything, but yes, yes they do.

16 Q. Are you aware of any employees at that
17 Parabo facility that have ever gotten sick from
18 hydrogen sulfide?

19 A. No, sir.

20 MR. BOHNHOFF: That's all I have.

21 COMMISSIONER PADILLA: One quick question,
22 Mr. Chairman.

23 Mr. Carrillo, I should have asked earlier,
24 how many employees do you have on location for any
25 given shift?

1 THE WITNESS: I got maybe 23 employees. I
2 was up to 43 to 46 employees during the boom.

3 COMMISSIONER PADILLA: Thank you.

4 CHAIRMAN CATANACH: Anything further of
5 this witness?

6 MR. WOODWARD: No, sir.

7 CHAIRMAN CATANACH: This witness may be
8 excused.

9 Mr. Carrillo, thank you for making the
10 trip up to Santa Fe.

11 MR. BOHNHOFF: At this point LES would
12 call Mr. Ron Bohannan.

13 (Whereupon, the witness was sworn.)

14 RONALD BOHANNAN,
15 after having been first duly sworn under oath,
16 was questioned and testified as follows:

17 THE WITNESS: Ronald R. Bohannan,
18 B-O-H-A-N-N-A-N.

19 MR. BOHNHOFF: Mr. Catanach, I think I
20 need to address before we start Mr. Bohannan's
21 testimony, during the course of Dr. Townsend --
22 excuse me, Turnbough's testimony during questioning
23 by the Commissioners, he testified to the effect, I
24 believe, that -- I am paraphrasing, but I think this
25 is the gist, that it would be incomprehensible to

1 him that C.K. would never get an access permit from
2 the Transportation Department. I thought that that
3 subject was off the table. And now I have got a
4 witness who is a traffic engineer who has very
5 substantial experience getting permits from the
6 Department of Transportation.

7 And respectfully, I think this witness
8 would be more qualified to address that issue but
9 now, I am in the position of being told I can't
10 address that with my witness but yet there is now
11 evidence in the record that goes to that question,
12 and I am not in a position to rebut it.

13 I would respectfully ask that I could ask
14 this witness about the Department of Transportation
15 permitting likely for the C.K. facility.

16 MR. WOODWARD: May I respond?

17 CHAIRMAN CATANACH: Yes.

18 MR. WOODWARD: I don't believe -- I think
19 there was mischaracterization of Dr. Turnbough's
20 testimony. I don't believe that he testified the
21 likelihood of whether DOT would issue a permit or
22 not, I believe he was saying that his client would
23 definitely need to go get permission from the DOT in
24 order to operate this facility, which is a totally
25 different characterization of what I heard from

1 Mr. Bohnhoff.

2 CHAIRMAN CATANACH: Sorry, Mr. Bohnhoff,
3 did you say that Dr. Turnbough had testified that
4 they would -- it was incomprehensible that they
5 wouldn't be granted permission?

6 MR. BOHNHOFF: That was my recollection of
7 the gist of his testimony.

8 CHAIRMAN CATANACH: I think it would be
9 better to check for what he said. Is that possible,
10 Mr. Baca?

11 (Whereupon the record was read back.)

12 CHAIRMAN CATANACH: So where are you going
13 with this witness?

14 MR. BOHNHOFF: This witness is going to
15 address traffic safety.

16 CHAIRMAN CATANACH: I think as long as
17 it's cached in terms of public safety, it should be
18 all right, but stay away from permitting issues.

19 MR. BOHNHOFF: I intend to. Certainly Mr.
20 Turnbough, we just heard him, he talked about
21 traffic safety. This traffic engineer will talk
22 about safety.

23 CHAIRMAN CATANACH: All right. Let's
24 proceed.

25

1 DIRECT EXAMINATION

2 BY MR. BOHNHOFF:

3 Q. Mr. Bohannon, how old are you?

4 A. Sixty-two years old.

5 Q. Where do you live?

6 A. I live in Albuquerque, New Mexico.

7 Q. How are you currently employed?

8 A. I am the president and co-owner of Tierra
9 West, LLC, a full service engineering company.

10 Q. Summarize for me your formal education
11 since high school.

12 A. Since high school I worked for Bohannon
13 Houston Engineering as an intern and employee doing
14 surveying, engineering technician work, drafting,
15 various elements of engineering. I graduated from
16 the University of New Mexico in 1977 with a Bachelor
17 of Science in civil engineering. I continued
18 working for Bohannon Houston --

19 MR. WOODWARD: I hate to interrupt, I'm
20 sorry, but I don't believe this witness been sworn
21 in.

22 THE REPORTER: Yes, he has been sworn in
23 and he stated his name for the Commission.

24 MR. WOODWARD: Okay. I didn't hear it,
25 I'm sorry.

1 A. So, after college I continued working for
2 Bohannan Houston as an engineer. I was registered
3 in -- as a professional engineer in 1981.

4 Approximately 1984 I went to work for
5 Westland Development Company, which is a development
6 company that owned 50,000 acres on the west side of
7 Albuquerque. I was their senior engineer for
8 Westland, at which time I left and my wife and I
9 started Tierra West Development Management Services,
10 which is later became Tierra West, LLC. We have
11 been in business for 30 years. We develop and
12 design all sorts of developments from single family
13 developments to commercial shopping centers,
14 industrial parks, et cetera.

15 Q (By Mr. Bohnhoff) Generally describe for me
16 your experience with traffic engineering.

17 A. In traffic engineering we do conduct
18 preliminary studies. We also conduct detailed
19 analysis of projects that use and access DOT
20 facilities, not only here but in the nine states
21 that we are registered in. We also prepare driveway
22 applications as well as design facilities for those
23 access points, as well as work with the DOT for
24 their facilities on designing their facilities, such
25 as interchanges, roadways, roadway improvements.

1 Q. Do you have any experience working through
2 storm water drainage issues in connection with land
3 development projects?

4 A. Yes, we do. About 90 percent of all of
5 our projects has a storm water component. We
6 average between 100 and 110 projects a year, so we
7 have projects in well over 2,000 projects that we do
8 storm drainage work from local ponding to large
9 master drainage ponds. We work both State, local
10 and federal levels.

11 Q. During the course of your career have you
12 had any involvement in the design of landfills?

13 A. I was -- a very limited design. We worked
14 with the City of Albuquerque on the recycling center
15 on the Eagle Rock Recycling Center, designing
16 permitting, the initial application for that
17 recycling center. Then we also worked with the City
18 of Albuquerque on the Cerro Colorado landfill site
19 for their recycling facility on-site as well. And
20 then worked with the one of our adjacent landowners
21 on the Southwest Landfill opposing the expansion of
22 that permit.

23 Q. Conceptually is there any difference
24 addressing traffic engineering issues in the context
25 of a landfill project as opposed to addressing

1 traffic engineering issues in the context of some
2 other industrial facility?

3 A. No, there isn't. What you are looking at
4 is the impact on the facility to ensure the safety.
5 Safety as everything has been testified this
6 morning, so what you were looking at in traffic is
7 you're identifying the baseline traffic that is
8 using that facility, you're looking at the potential
9 generation of the -- of whatever facility that you
10 are applying for. Applying those metrics to the
11 analysis and then analyzing those metrics against
12 the the standards required by the New Mexico
13 Department of Transportation.

14 Q. We will get into this in a little bit.
15 The standards required by the Transportation
16 Department, is there any difference between those
17 standards and the standards of good engineering
18 practice generally?

19 A. No, there isn't. As engineers, our first
20 role is to the safety of the general public and that
21 is what the DOT requires that all of their access
22 standards are measured against is to really protect
23 the safety of the public.

24 Q. And would that be the same of generally
25 accepted traffic engineering practices, that they

1 are ultimately driven by safety concerns?

2 A. Yes.

3 Q. You have mentioned the professional
4 engineer licenses that you hold already in your
5 discussion of your background. Are you a member of
6 any professional organizations that relate to
7 development engineering generally?

8 A. Yes. I am a member of the American
9 Society of Civil Engineers, and also a member of the
10 New Mexico Society -- or the National Society of
11 Professional Engineers, NMSPE.

12 Q. Have you ever been qualified to testify as
13 an expert witness in any judicial or administrative
14 proceedings on traffic engineering issues?

15 A. Yes, I have. Approximately I would say a
16 dozen to two -- a dozen cases that are traffic
17 related and over 30 cases as an expert witness.

18 Q. If you look at that black notebook, turn
19 to Exhibit W.

20 A. (Witness complies.)

21 Q. Can you identify Exhibit W as a copy of
22 your resume?

23 A. Yes, it is.

24 Q. Looking at it, is this a current list of
25 your expert witness testimony?

1 A. It is, less one case that we had
2 approximately last year. We were an expert witness
3 on the behalf of Smith's on a -- an access issue
4 from Indian School and Carlisle in Albuquerque.

5 MR. BOHNHOFF: Mr. Catanach, I would move
6 the admission of Exhibit W.

7 CHAIRMAN CATANACH: Is there any
8 objection.

9 MR. WOODWARD: No objection.

10 MR. BROOKS: No objection.

11 CHAIRMAN CATANACH: Exhibit W will be
12 admitted.

13 (Exhibit W admitted.)

14 Q (By Mr. Bohnhoff) Were you asked on behalf
15 of LES to provide expert opinion regarding traffic
16 engineering and storm water drainage issues with
17 respect to C.K.'s disposal application with the OCD
18 for a permit to build and operate an oilfield waste
19 disposal facility across the State Highway 176 from
20 LES's uranium enrichment plant?

21 A. Yes, I was.

22 Q. Have you reviewed C.K.'s application?

23 A. Yes, I have.

24 Q. And have you prepared a report that
25 memorializes your analysis and opinions in

1 connection with this assignment?

2 A. I did. It is dated January 27, 2017
3 addressed to yourself.

4 Q. If you turn to the next exhibit in this
5 black notebook of LES exhibits, can you identify
6 Exhibit X as a copy of your report in this matter?

7 A. Yes, it is.

8 MR. BOHNHOFF: Mr. Catanach, I would move
9 the admission of this report.

10 MR. WOODWARD: I object.

11 CHAIRMAN CATANACH: What is your
12 objection?

13 MR. WOODWARD: Half the report is a
14 traffic analysis of potential impacts to C.K.
15 facility and this is just a backdoor effort to get
16 into New Mexico Department of Transportation issues
17 and put it into this record. I think you have
18 already ruled on this. If he can somehow carve out
19 the drainage part of it and submit it, then we will
20 remove our objection, but in terms of the traffic
21 analysis and report it has no business coming into
22 this record.

23 MR. BOHNHOFF: Mr. Catanach, this report
24 had to be prepared by Thursday of last week in order
25 to meet the deadline for submitting exhibits. We

1 had a decision on Tuesday of this week to the effect
2 that there would be no exclusion of evidence
3 relating to permitting issues then, yesterday, the
4 Commissioner made a contrary decision and said that
5 we would be excluded from addressing permitting
6 issues. I am stuck with the fact that the report
7 had to be prepared before that decision was made.

8 What I would request is that the report be
9 admitted subject to the Commission's determination
10 that any discussion relating to access for
11 permitting by the DOT would be excluded. And not
12 considered. However, I will say that Mr. Bohannon
13 will address the same issues, the same traffic
14 analysis studies in the context of the separate but
15 parallel issue of traffic safety under generally
16 accepted engineering standards, and the analysis is
17 the same. And because there is analysis and tables,
18 and figures, it would be helpful for the Commission
19 to have before it the report even if it is limited
20 to just the traffic safety context without going to
21 the permitting context.

22 MR. BROOKS: Mr. Chairman, I'm sorry, are
23 you through?

24 MR. BOHNHOFF: Yes.

25 MR. BROOKS: I have remained silent so far

1 about this issue, but I have two concerns. An
2 expert's report, first of all, is technically
3 hearsay which probably doesn't preclude its
4 admission before a Administrative Tribunal. In
5 Court, expert reports are often admitted by
6 agreement, but they are technically non-admissible
7 even when the expert is present because he is
8 supposed to testify live.

9 Of course, that takes more time. So, time
10 is a consideration here. The other consideration is
11 that if the Commission is inclined to rule that this
12 is not admissible, I still think, as I have urged
13 before, that the testimony that is not admissible,
14 that is ruled inadmissible, should be made a part of
15 the record. The reason for my concern here is that
16 if the Commission decides to grant a permit and the
17 case is appealed the appellate court may say, well,
18 the Commission made an erroneous ruling to exclude
19 certain testimony that we conclude should have been
20 admitted and therefore we are going to have to
21 reverse the Commission's decision and send it back
22 to the Commission to reconsider with the light of
23 this evidence because we can't tell whether or not
24 this evidence would prove anything or not since the
25 Commission didn't make it part of the record. And,

1 that is the way they do it in Court, they make it
2 part of the record. I know that takes some time.
3 But perhaps the report, making the report a part of
4 the record for purposes of a Bill of Exception, if
5 you think the testimony is not admissible would be a
6 way of meeting both those issues.

7 CHAIRMAN CATANACH: So you would recommend
8 that we put it in the record, Mr. Brooks?

9 MR. BROOKS: That would be my
10 recommendation, yes, that you allow Mr. Bohnhoff to
11 make a record by putting it in the record to make a
12 Bill of Exception by putting it in the record even
13 if you think it's not admissible. I won't speak to
14 whether or not it is admissible.

15 CHAIRMAN CATANACH: Do you want to comment
16 further?

17 MR. WOODWARD: Yes, please. One, I would
18 like to address, this is the second or the third
19 time that Mr. Bohnhoff has said this and he said
20 there was a ruling yesterday about -- or Tuesday
21 morning about limiting the issues. What I heard
22 there was a ruling that the subpoenas that we had
23 requested be quashed were going to stand quashed,
24 were going to stand and I had never heard a ruling
25 on our motion to limit the issues.

1 Now, I just assumed it had been overruled,
2 but that was -- our request was to limit the
3 presentation of their issues to there what was in
4 LES comments. So that was why we reurged or didn't
5 reurge, but made the motion we did yesterday about
6 not allowing them to present testimony that was
7 outside the regulatory jurisdiction of this agency.

8 Now, typically in administrative permit
9 hearings I haven't seen many Bills of Exception
10 made. Usually the record that goes on an appeal is
11 the record that is made of the evidence that is
12 accepted in to evidence.

13 He is more than welcome to offer to make a
14 Bill of Exception, but I have never seen one made in
15 an administrative hearing. It is usually you take
16 the evidence that is admissible, is relevant to the
17 proceeding, and then you put all of that into the
18 record that then goes with an appeal to the
19 judiciary. And I will say I have never seen a
20 permit decision overturned on an evidentiary ruling.

21 MR. BOHNHOFF: May I address those points
22 briefly?

23 Mr. Chairman, I think I am entitled to
24 make an Offer of Proof with respect to the
25 permitting topic. But it seems to me that neither

1 of the comments of Mr. Woodward or Mr. Brooks are
2 really addressing my point that this report can be
3 admitted for the purpose of the points that
4 Mr. Bohannon is going to be making about traffic
5 safety as a matter of generally accepted engineering
6 practices. The Commission can admit this report
7 with the qualification that any opinions about
8 permitting will not be considered and are excluded
9 from the admission. And I think that addresses --
10 that accommodates the appropriateness of the
11 Commission hearing evidence that goes to traffic
12 safety, but it is also reflective of the
13 Commission's decision yesterday that evidence
14 concerning permitting will be excluded.

15 MR. BROOKS: Mr. Chairman, I think the
16 Division would concur in that request. We do have
17 some reservations about whether or not, despite
18 language in the Rule, the question of traffic safety
19 is even within the Commission's jurisdiction but we
20 would prefer to brief that as an after -- post
21 hearing as a post-hearing matter.

22 MR. WOODWARD: That is very similar to
23 what I was going to say. But I don't understand
24 where we are parsing here where traffic safety is
25 even part of the consideration under Part 36. As we

1 have -- and we will certainly be having to brief it,
2 it sounds like, but there is absolutely nothing in
3 this application about traffic safety. Because
4 there is nothing in the regulations that requires an
5 Applicant for such a permit to submit anything with
6 traffic safety.

7 Now we are going to start putting on
8 evidence on issues that are not in the application,
9 that are not properly before this Commission for
10 consideration. And what it is doing is eating up
11 time to get this hearing completed in three days.
12 So that is one of the reasons we are raising these
13 concerns and why we believe that maybe this witness
14 should just be stricken and this report not be put
15 in the record.

16 COMMISSIONER BALCH: I would move we go
17 into executive session and discuss this matter.

18 (A recess was taken.)

19 COMMISSIONER BALCH: I move we go back
20 into regular session.

21 CHAIRMAN CATANACH: I will second that.
22 All in favor say aye.

23 ALL MEMBERS: Aye.

24 CHAIRMAN CATANACH: Opposed?

25 Motion carries.

1 During the executive session we just
2 discussed the issue of whether or not to allow this
3 exhibit to be entered into evidence.

4 I will let my colleague, Mr. Padilla,
5 indicate what our decision is.

6 COMMISSIONER PADILLA: So, the Commission
7 has decided that we are going to exclude the report
8 based on the fact that it seems to really belong in
9 the jurisdiction of the New Mexico Department of
10 Transportation. We don't have the authority to
11 listen to those issues in light of the
12 jurisdictional overlap we discussed yesterday, but
13 that we will allow Mr. Bohannon to testify to the
14 contents of the report that include or pertain to
15 runoff of or potential runoff of hydrocarbons or
16 other contaminants as they may be contained within
17 the footprint of the proposed C.K. facility because
18 that is within the jurisdiction of this Commission.

19 CHAIRMAN CATANACH: Thank you,
20 Commissioner.

21 Q. (By Mr. Bohnhoff) Mr. Bohannon, if you
22 want to develop a 320-acre piece of land in Lea
23 County, what are the generally accepted engineering
24 standards with respect to storm water drainage that
25 you have to deal with?

1 A. The general engineering standards, both
2 nationally and State, locally is 100-year design
3 storm. Typically depends on the duration of that
4 storm, what you are using that storm for, if you
5 have an outfall, if you don't have an outfall. Then
6 it determines the type of year and the duration of
7 the storm.

8 Q. And, so you have to deal with 100-year
9 storm. What do you have to do on the land to
10 address that 100-year storm?

11 A. So the 100-year event is a frequency, and
12 so I want to try to educate the Commission on the
13 frequency. What that means is it doesn't occur
14 every hundred years, it is a frequency, it is a low
15 frequency, 1 percent chance of a storm. That storm
16 is what is used by the Federal Emergency Management
17 agencies. It is looked for FEMA, the firm maps, all
18 the insurance rates uses the 100-year event. If you
19 have a facility that allows drainage within a
20 certain period, then you set up the hour frequency,
21 and what that does is that sets your rainfall
22 intensity in inches per hour and at that point in
23 time then you actually can start designing a
24 facility on -- your drainage facilities on the piece
25 of ground that you are looking at, if that is a

1 pond, if that is a channel. Then you can look and
2 then you are hitting the correct volume as well as
3 flow rates through that.

4 Q. In addressing storm water drainage, do you
5 have to control the storm water drainage onto
6 adjoining properties?

7 A. You are trying to mimic the historical
8 conditions. So if you have a site that has
9 historically sheet flow, what you have here, so you
10 have a 300-acre site that basically sheet flows.
11 There is no concentration of that flow, you try to
12 mimic that in a developed condition so that you
13 don't damage any downstream conditions. You don't
14 damage any downstream property owners.

15 Q. To the extent you -- to the extent that
16 the development of the property is going to increase
17 the volume of storm water draining off of the
18 property onto the adjoining property, what do you
19 have to do?

20 A. Typically what do you is you pond the
21 difference between what is called the developed flow
22 and the historic flow, which is what is in this
23 application. They have used the 25-year historic
24 flow and then they have calculated the 25-year
25 developed flow. And what they are trying to do is

1 route that flow through a pond and retain the
2 difference between the historic and the developed
3 flows.

4 Q. Have you reviewed the C.K. application for
5 its waste disposal facility to determine what they
6 have done to address storm water drainage?

7 A. Yes, I have.

8 Q. Turn, if you would, to what is labeled as
9 Volume 2 of the C.K. permit application,
10 Attachment J.

11 A. Okay.

12 Q. Are these figures or diagrams helpful in
13 explaining your opinion?

14 A. Yes, they are.

15 Q. Okay. Does C.K. provide for detention
16 ponds in the southwest and the southeast corners of
17 the property?

18 A. Yes, they do. As shown in Figure J.7 in
19 the back of that Appendix J.

20 Q. Does C.K. state in its draining study that
21 it is designing the detention ponds to handle the
22 additional runoff; that is, the delta between the
23 predevelopment and the development runoff from a
24 100-year event?

25 A. No. They are designing for a 25-year,

1 24-hour event and they -- the ponds are set up to
2 pass the existing flow or the flow differential
3 between the developed and the existing flow out of
4 these ponds. They are only retaining the delta
5 difference between the two volumes.

6 Q. Does C.K.'s storm water drainage meet
7 generally accepted engineering standards in
8 New Mexico?

9 A. No, in my opinion it does not.

10 Q. Explain why not, and feel free to use
11 these diagrams to make your point and give your
12 opinion.

13 A. Okay.

14 COMMISSIONER PADILLA: I'm sorry,
15 Mr. Bohnhoff, I am a bit lost. Are we on Book 2,
16 Attachment J? What is the number?

17 MR. BOHNHOFF: I haven't directed the
18 witness to any particular figure.

19 Q. (By Mr. Bohnhoff) I'm waiting for you to
20 tell us.

21 A. If I may, if could you turn to Figure J.6.
22 It is an 11x17 foldout on Appendix J. And what this
23 depicts is the proposed developed drainage plan for
24 the C.K. facility. North is oriented to the top of
25 the page. The access is on the northeast corner of

1 the site, and then you have your surface landfill
2 that is the majority of the site on the western
3 half. The two ponds in question are Detention Pond
4 Number 2, which is in the lower right-hand corner in
5 the southeast corner and then the Detention Pond
6 Number 1 in the southwest corner of the facility.

7 They -- this facility is designed to route
8 a majority of the flow, almost 85 percent of the
9 flow to Detention Pond Number 1 and a very small
10 portion actually gets to Detention Pond Number 2.
11 The -- all of the surface flow, unless it is
12 separated, will be picking up whatever is on the
13 ground. Any oil, any mud, any debris that is not
14 cleaned and policed on the ground will end up in
15 these two ponds. So, if you look at -- if you think
16 about a 25 or 100-year event, you have a storm that
17 comes in and it fills this pond up. But before the
18 peak is done it goes over this pond and continues
19 down because it doesn't have capacity for the entire
20 storm. And so these ponds are just retaining a
21 portion of the volume. It is not controlling the
22 entire volume that is occurring on this site.

23 So, in a practical matter when you are
24 looking at this, the hundred-year event is what
25 FEMA, all the regulatory agencies look for as far as

1 impacts. What you are doing is you're taking sheet
2 flow that occurred across this site and pretty much
3 discharged as sheet flow on the west side and you
4 are concentrating them in at least two ponds where
5 these two ponds will overflow and then join to
6 the -- drain to the adjoining neighborhood.

7 Q. What is the problem with concentrating the
8 flow?

9 A. There is two issues with concentrating the
10 flow. In my review of the plans, they didn't take
11 into account the total volume and velocities of the
12 flows that are going over these ponds. So, in my
13 opinion, these ponds would erode out very quickly in
14 a storm event of 25 or -- and much larger. If you
15 had 100-year event you would definitely wash out
16 these ponds through that area, plus you are taking
17 that flow of roughly 400 CFS and you are
18 concentrating it in 20 -- 10 to 20 percent of what
19 the area was previously. So you start creating what
20 we call hungry water, so downstream now that water
21 will start eroding and creating channels downstream.

22 Q. Did you find any calculation errors in the
23 determination of what the difference in flow is
24 going to be between predevelopment and development?

25 A. We did. We found -- we are in

1 disagreement of the volumes of the 25-year, 24-hour.
2 We used the same HMS software, modeling software,
3 but we came up with more volume. But more
4 importantly, if you would turn to Figure J5., let me
5 explain what this figure is.

6 Q. Let us get to J.5 first.

7 A. Figure J.5 is a schematic showing how all
8 the drainage basins work on the property. If you
9 start on the right-hand side you will see a little
10 square box about mid-block called DA3. And that
11 stands for Drainage Area Number 3. And it goes
12 through Drainage Pond Number 2, which is a
13 triangular area just below that. That pond has the
14 most volume but only gets about a third of the
15 volume to that pond and it is not connected to
16 Drainage Basin 1. The other area shows how all of
17 the other site, Drainage Basin A1, 2, 4, 5, 6, and 7
18 all drain to Drainage Pond 1, and that is where the
19 majority of all of the operations are occurring for
20 your unloading and your operations on the site.
21 That is going to the smallest pond and it is
22 undersized based on their calculations.

23 Q. Will the concentration of the drainage of
24 storm water flow concentration to just the area of
25 the detention pond in the southwest corner, in your

1 professional opinion, is that likely to cause
2 environmental damage to the neighboring properties
3 to the south and the west?

4 A. It could. If you are picking up
5 sediments, which I don't see any measures on this
6 plan that would control sediment to take that
7 sediment out of the pond, sediment would be
8 deposited in smaller -- smaller storms in the bottom
9 of this. They didn't have anything in there for
10 sediment removal. When you get a larger event where
11 it actually did go over and outside the pond like a
12 25-year event, any contaminants that are in that
13 soil, that are in that pond would be washed
14 downstream.

15 Q. So you get contamination but given the
16 questions of contamination aside, does the
17 concentration of the flow to a narrower flow than
18 what was in the case predevelopment, does that
19 concentration of the flow have an environmental
20 result as well?

21 A. What it -- the result of that flow would
22 be concentration of flows downstream and erosion of
23 sediment, further sediment downstream, which would
24 change habitat potentially downstream. So yes, it
25 would.

1 MR. BOHNHOFF: Given the Commission's
2 ruling limiting the scope of Mr. Bohannon's
3 testimony. I pass the witness.

4 CHAIRMAN CATANACH: Mr. Brooks, do you
5 have any questions.

6 MR. BROOKS: Yeah, a little, a few.

7 CROSS-EXAMINATION

8 BY MR. BROOKS:

9 Q. I am not sure I really understood what you
10 said because first you said, as I understand it,
11 that if you are developing a property in a way, in
12 just about any development is going to have this
13 effect, you are going to build it, developing
14 something on it, you are changing sheet flow into
15 concentrating flow, right?

16 A. You are changing -- in this particular
17 application, you are changing sheet flow into
18 concentrated flow. What you are supposed to do to
19 avoid damage is to mimic sheet flow off of this
20 site. So instead of creating a concentrated point
21 such as the pond, you would need to mimic that
22 release so that it -- it mimics the sheet flow on
23 the west side.

24 Q. Well, I thought you said that the way that
25 you should do that is by ponding the difference?

1 A. No. What I said was they're ponding the
2 difference between the 24-hour historic and
3 developed flows so that they can say they are not
4 changing the quantity of flow that is going
5 downstream. You are changing the point of diversion
6 and you are changing the quality of the flow going
7 downstream by this application.

8 Q. Well, what would be the accepted way of
9 mimicking the sheet flow given that development
10 inherently concentrates the flow on the property and
11 you have got -- and if you once get -- what would be
12 the accepted way of redressing that problem?

13 A. It would be one of two ways. One, is you
14 could try to look at a very long weir, basically
15 along the west property line routing the detention
16 ponds together so that it basically came over at the
17 same velocity and rate that it mimics the
18 predeveloped -- the historic area. The other way is
19 to go downstream and get a drainage easement from
20 the adjoining property for the damages.

21 Q. And that would take care of the issues
22 with regard to property rights which are not --
23 which are really more a private law issue than they
24 are environmental. How would you address it if you
25 would consider it a environmental issue?

1 A. You would end up looking at how you could
2 add basically sediment to this so that you are not
3 providing clean water. That is one of the biggest
4 issues and the biggest challenges is how can you
5 mimic the quality of water that discharges off the
6 site. It is not an easy problem.

7 MR. BROOKS: I suppose I understand it
8 well enough for present purposes. Thank you.

9 CHAIRMAN CATANACH: Mr. Woodward?

10 MR. WOODWARD: Yes, sir, I have a few
11 questions.

12 CROSS-EXAMINATION

13 BY MR. WOODWARD:

14 Q. Good afternoon or good evening, isn't it.
15 I thought I heard Mr. Bohnhoff say that you had
16 found some calculation errors?

17 A. Yes. In the 24-hour, 25-year storm we
18 came up with a difference of approximately I want to
19 say two and a half acre-feet of volume difference.

20 Q. Did you use the same inputs?

21 A. We used the same inputs. We used the mean
22 average point sources that NOAA provides in that
23 area. And so our intensity was different than I
24 believe what was in the report.

25 Q. So you used a different number for the

1 25-year, 24-hour storm?

2 A. No. We used a 25-year, 24-hour storm as
3 acceptable means of calculating the intensity off
4 the NOAA Atlases. The same method that he used but
5 he had a different number in the intensity.

6 Q. But that is an input, right?

7 A. That is an input, yes.

8 Q. That is not a calculation error?

9 A. That is a basic assumption error.

10 Q. It is a difference of opinion, correct?

11 A. That could be used that way, yes.

12 Q. Okay. But it is not a calculation error?

13 A. It could be if I could understand how he
14 came up with the number as opposed to accepted
15 recognized methods of calculating the intensity.

16 Q. Help me understand, then, what the
17 difference is between what we are talking about
18 here. You accepted 25-year, 24-hour storm to do
19 your calculation but you used a different intensity
20 number?

21 A. The accepted methods of calculating
22 intensity which results in storm water volume which
23 then looks at rates, is to use the published data
24 off of the NOAA, National Oceanic and Atmospheric
25 Agencies iso topo maps. They are the ones that

1 create the maps for the standards. You're to look
2 at the high and low and then use the mean. This
3 individual used a point at that location that
4 interpolated it differently than that method.

5 Q. Did you pick a specific location from the
6 map?

7 A. We used the nearest recording information,
8 which was Hobbs, and we used the high and low, which
9 is the accepted methods.

10 Q. So, make sure I understand, you used
11 weather data from Hobbs to get the -- what do you
12 mean the high and low? What is the high and low?

13 A. So there is a range in intensities of
14 isopluvial maps and there is a low and a high and
15 you use the average median.

16 Q. So just to clarify, you used a different
17 input but there was not a calculation error in the
18 C.K. Disposal calculation?

19 A. There was a -- as far as are you asking
20 about the volume?

21 Q. Yes.

22 A. The volume is based on the intensity that
23 you use. So we have a difference in volume based on
24 the intensities that are used.

25 Q. Okay. Where do you base your statement

1 that the hundred-year storm is the standard
2 engineering practice?

3 A. It is required by FEMA for any preparation
4 of flood insurance rate maps. It is the basis that
5 is used by a number of municipalities throughout the
6 State of New Mexico and general engineering
7 practices.

8 Q. How many landfills have you designed and
9 permitted in the State of New Mexico?

10 A. None.

11 Q. So you are not familiar with the
12 regulatory standards of the NMED for design of
13 landfills?

14 A. I am somewhat but the issue is if you are
15 employing engineering principles for safety and
16 you're looking at protecting the general safety
17 public, you need to look at what a hundred-year
18 event would occur on this landfill and the resulting
19 impacts that storm would create.

20 Q. So if an agency says to utilize the
21 25-hour peak -- 25-year peak storm, you're saying
22 that the agency is not utilizing standard
23 engineering practices?

24 A. That's correct.

25 Q. Okay. You said we came up with a

1 different number. We talked about, are there any
2 other different assumptions or inputs that utilized
3 in your model than what C.K. Disposal utilized?

4 A. No.

5 Q. It was strictly this intensity number that
6 is drawn from the isopluvial maps?

7 A. Correct.

8 MR. WOODWARD: May I have just a minute to
9 go through my notes here, please?

10 (Brief pause in proceedings.)

11 Q. (By Mr. Woodward) So, other than your
12 statement that it doesn't comply with the
13 hundred-year, 24-hour storm engineering standard and
14 that they used a different rainfall intensity
15 number, did you make any analysis as to where this
16 drainage plan complied with the regulations of the
17 OCD Part 36?

18 A. No, I did not.

19 MR. WOODWARD: No further questions.

20 CHAIRMAN CATANACH: Commissioners.

21 COMMISSIONER BALCH: Sure.

22 EXAMINATION

23 BY COMMISSIONER BALCH:

24 Q. I am not sure if design of the storm water
25 runoff system is really in our purview, but I am a

1 curious person, so what is the hundred-year storm
2 for Eunice?

3 A. It is about 5.6 inches per hour rate fall
4 for a 24-hour event.

5 Q. That is about two orders of magnitude more
6 than the 25-year event?

7 A. Yes. It is almost twice and from a
8 preview yes, it does, because again, what I was
9 trying to relay to the Commission is you have all of
10 these constituents on the land. When you have storm
11 water runoff, as we all know, it picks up sediment
12 as it goes off and through this area. That is what
13 you're looking at. That is what you are regulating.
14 That is where the safety of the general welfare
15 comes. The handling and treatment of that at the
16 storm drainage is, in my opinion, important to this
17 Commission.

18 Q. So it sounds like if you connected the two
19 ponds up with a long channel that you could probably
20 handle that hundred-year event?

21 A. No. You are about -- for the hundred-year
22 event you're a magnitude off. You are about eight
23 to 10, 12-acre feet short.

24 Q. Okay.

25 COMMISSIONER BALCH: All right. Thank

1 you.

2 COMMISSIONER PADILLA: Just a couple. I
3 promise to keep it brief. Thanks your time,
4 Mr. Bohannan.

5 EXAMINATION

6 BY COMMISSIONER PADILLA:

7 Q. Mr. Brooks brought up an interesting point
8 about, you know, mimicking sheet flow on
9 development. I mean, is there ever truly a way to
10 mimic sheet flow or are you going to have some
11 impact with some channelization?

12 A. You're probably going to have some impact.
13 It is very tough but, you know, you're supposed to
14 mimic the historical conditions.

15 Q. As best as you can?

16 A. As best as you can. In this case they are
17 a long way from mimicking historical.

18 Q. So looking at Figure J.6, just a very
19 ballpark recommendation, what would you have done
20 differently in this scenario to mimic sheet flow?

21 A. I would probably have reallocated the pond
22 on the west side, increasing the depth and then
23 increasing the weir length on the very north side.
24 The other issues that I saw in this deficiency was
25 the actual weir construction. There is very few

1 details. There is very little details on this plan,
2 period. And the weir in a larger event would
3 probably wash out and wash out your entire pond. So
4 the pond designs are woefully lacking.

5 Q. Okay. Then the issue of professional
6 differences of opinion came up as far as, you know,
7 what -- what point data to use, what flood data,
8 what the differentials there were. Are there any
9 alternatives to the NOAA data that are applicable to
10 this sort of thing in your professional opinion?
11 Could there be a professional difference of opinion
12 with two reputable data sources?

13 A. Not with different -- NOAA is the data
14 source. That is what all -- that is what FEMA uses.

15 Q. That is the standard?

16 A. That is the standard.

17 Q. How about in any of the other calculations
18 as far as the hundred-year, 24, we touched on that a
19 little bit but...

20 A. If he had some type of routing through the
21 pond that was not in the report that he was
22 discharging at a higher rate, then, we could have
23 had a difference in the pond volume calculations. I
24 didn't find that in that report.

25 Q. And then accumulated sediment in the pond

1 is also big, you touched on.

2 A. Right. There was no calculations for any
3 type of sediment loading on these ponds whatsoever.
4 So over time, you're going -- these ponds are going
5 to fill up with sediment, there is nothing in there
6 that says we are going to maintain these ponds and
7 pond volume, so when we have the spring runs --
8 rains, it has the volume.

9 COMMISSIONER PADILLA: That is all I have.
10 Thank you.

11 EXAMINATION

12 BY CHAIRMAN CATANACH:

13 Q. Just one.

14 Mr. Bohannon, overflow of these ponds is
15 going to drain to the south and the southwest. Is
16 that correct?

17 A. That is correct. That is my
18 interpretation.

19 Q. Okay. Can you tell me how that adversely
20 affects property owners to the north of this
21 facility?

22 A. Not from that flow standpoint. From a
23 Clean Water Act, if you don't take into account
24 sediment being tracked out on the -- by that area,
25 onto the highway, that would be the only impact that

1 I would see on drainage on the property owners to
2 the north.

3 CHAIRMAN CATANACH: Okay. That is all I
4 have. Thank you.

5 Is there anything further of this witness?

6 MR. BOHNHOFF: Just some brief redirect.

7 REDIRECT EXAMINATION

8 BY MR. BOHNHOFF:

9 Q. Mr. Bohannon, I want to make sure we are
10 clear about your criticisms of the drainage study.
11 You concluded that it was error to use a 25-year
12 storm event as opposed to a 100-year storm event as
13 basis for a designing these detention ponds?

14 A. That is my opinion. I think that he is
15 not protecting the general public.

16 Q. But there is a separate criticism that
17 even if you assume propriety of using a 25-year
18 event to design a drainage system, there was an
19 error in undercalculating the magnitude of the
20 25-year event, right?

21 A. That is correct.

22 Q. Look at Exhibit J.6.

23 A. Figure J.6?

24 Q. Figure J.6, I'm sorry.

25 The way this landfill on the west and then

1 the evaporation ponds on the right are placed on the
2 property, does that leave little room for
3 constructing detention pond facilities that would
4 address a 100-year event?

5 A. If all of these areas are needed as part
6 of the operations and the permit, then, yes, it
7 would be -- it would be difficult to get the
8 hundred-year volume on this.

9 MR. BOHNHOFF: That's all I have.

10 CHAIRMAN CATANACH: Thank you, sir. Any
11 other questions of this witness?

12 MR. WOODWARD: Yes, sir.

13 RECROSS EXAMINATION

14 BY MR. WOODWARD:

15 Q. You mentioned the Clean Water Act. Is
16 that -- if you're going to comply with the Clean
17 Water Act for storm water, aren't there permits that
18 have to be obtained to address storm water runoff?

19 A. Under the Clean Water Act, New Mexico is
20 a -- falls under the jurisdiction of the
21 Environmental Protection Agency, EPA. They are
22 regulated by Dallas District 6, so all facilities
23 that are disturbing anything greater than one acre
24 have to file a notice of intent with the EPA for any
25 type of movement and then file a notice of

1 termination once that is stabilized.

2 Q. And does the NMED act in place of the EPA
3 in New Mexico for the Clean Water Act?

4 A. NMED has a contract with EPA for reviews
5 and site inspections. They don't do enforcement.
6 EPA directly out of Dallas does enforcement.

7 MR. WOODWARD: No further questions.

8 MR. BOHNHOFF: Mr. Catanach, could I
9 address this issue of discharge topic that
10 Mr. Woodward just brought up briefly?

11 MR. WOODWARD: I brought it up to clarify
12 his testimony is actually addressing some issues
13 that are outside the jurisdiction of this agency.

14 MR. BOHNHOFF: That is what I want to make
15 clear.

16 CHAIRMAN CATANACH: All right.

17 FURTHER REDIRECT EXAMINATION

18 BY MR. BOHNHOFF:

19 Q. Mr. Woodward asked you would a discharge
20 permit be issued under the Clean Water Act and you
21 talked about filing a notice of intent. In fact,
22 would C.K. be seeking a discharge permit from the
23 EPA as opposed to simply filing this notice of
24 intent?

25 A. No. They would just have to file a notice

1 of intent. If they were found in violation of the
2 Clean Water Act, then they would be fined
3 accordingly.

4 Q. When does that happen that there is
5 enforcement action?

6 A. That can happen at any time during
7 construction and/or during operations. If they find
8 that they are discharging sediment offsite in
9 violation of the Clean Water Act, they can get
10 sited.

11 Q. That happens only if EPA does an
12 inspection?

13 A. EPA or under contract with New Mexico
14 Environmental Department.

15 MR. BOHNHOFF: That's all I have. Thank
16 you.

17 MR. WOODWARD: No further questions.

18 CHAIRMAN CATANACH: You may be excused.

19 THE WITNESS: Thank you.

20 CHAIRMAN CATANACH: We will stand in
21 adjournment until 8:00 a.m. tomorrow.

22 (Proceedings concluded at 6:01 p.m.)
23
24

25 I certify that the foregoing is a correct

1 transcript from the record of proceedings in the
2 above-entitled matter. I further certify that the
3 transcript fees and format comply with those
4 prescribed by the Court and the Judicial Conference
5 of the United States.

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