

OFFICE OF ZONING AND ADMINISTRATIVE HEARINGS
FOR MONTGOMERY COUNTY

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:
PETITION OF COSTCO WHOLESALE : Case No. S-2863
CORPORATION : OZAH No. 13-12
:
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A hearing in the above-entitled matter was held on
June 19, 2013, commencing at 9:37 a.m., at the Office of
Zoning and Administrative Hearings, 100 Maryland Avenue, 7th
Floor Council Hearing Room, Rockville, Maryland 20850
before:

Martin L. Grossman
Hearing Examiner

A P P E A R A N C E S

For the Applicant:

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P R O C E E D I N G S

1 MR. GROSSMAN: This is the seventh day of a public
2 hearing in the matter of Costco Wholesale Corporation, Board
3 of Appeals No. S-2863, OZAH No. 13-12, petition for a
4 special exception pursuant to Zoning Ordinance 59-G-2.06 to
5 allow petitioner to construct and operate an automobile
6 filling station which would include 16 pumps. The subject
7 site is located at 11160 Veirs Mill Road, Silver Spring,
8 Maryland. That's Lot N, 631 Wheaton Plaza, Parcel 10, also
9 known as Westfield Wheaton Mall, and it is zoned C-2,
10 general commercial.
11

12 The hearing was begun on April 26, 2013, resumed
13 on May 1, May 6, May 23, June 4, and June 17. It was
14 noticed to resume again today in this room, the seventh
15 floor council hearing room. The next session has been
16 noticed for Monday, July 8, in the second floor OZAH hearing
17 room in this building, Council Office Building, at 9:30 a.m.

18 This hearing is conducted on behalf of the Board
19 of Appeals. My name is Martin Grossman, the Hearing
20 Examiner, which means I will take evidence and write a
21 report and recommendation to the Board of Appeals which will
22 make the decision in the case. Will the parties identify
23 themselves for the record, please?

24 MS. HARRIS: Good morning. Pat Harris with Lerch,
25 Early, & Brewer here on behalf of the applicant.

C O N T E N T S

Witnesses:	Direct	Cross	Redirect	Recross
David A. Sullivan				
By Mr. Goecke:	15			
By Mr. Silverman			149	
By Ms. Rosenfeld			258	

E X H I B I T S

Exhibit No.		Marked/Received
173	E-mail from Renee Kamen to Marty Grossman regarding proposed pedestrian path	7
174	David Sullivan's modified PowerPoint presentation	13
175	Documentation of David Sullivan's Slide 25 calculations	14
176	Worksheet explaining model of emissions from Costco warehouse loading dock	46
177	Worksheet explaining how MOVES model scales up fine particulate matter from 0.05 micrograms per cubic meter to 0.01 micrograms per cubic meter	84

1 MR. GROSSMAN: Good morning, Ms. Harris.
2 MR. GOECKE: Good morning. Mike Goecke on behalf
3 of the applicant.

4 MR. GROSSMAN: Mr. Goecke.
5 MS. CORDRY: Karen Cordry, Kensington Heights
6 Civic Association.

7 MR. GROSSMAN: Okay, welcome.
8 MS. ROSENFELD: Michele Rosenfeld with Kensington
9 Heights, and Eleanor Duckett asked me to let you know that
10 she would not be here today but she expects to be at the
11 next hearing --

12 MR. GROSSMAN: All right.
13 MS. ROSENFELD: -- and Donna Savage will be
14 arriving late.

15 MR. GROSSMAN: I'm sorry. I missed the last part
16 of that.

17 MS. ROSENFELD: Donna Savage will be here but
18 arriving late.

19 MR. GROSSMAN: Okay. All right.

20 MR. SILVERMAN: Larry Silverman for Stop Costco.

21 MR. GROSSMAN: Mr. Silverman.

22 MR. COLE: Henry Cole.

23 MR. GROSSMAN: Mr. Cole.

24 MS. ADELMAN: Abigail Adelman, Stop Costco Gas
25 Coalition.

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1 MR. GROSSMAN: Hello.
2 MR. ADELMAN: Mark Adelman, SCGC.
3 MR. GROSSMAN: Dr. Adelman, how are you? Anybody
4 else in the audience who wishes to be heard today?
5 (No audible response.)
6 MR. GROSSMAN: Seeing no hands, I'll turn to a
7 couple of preliminary matters. There was an updated e-mail
8 exchange on June 18, that's yesterday, between Renee Kamen
9 and myself with technical staff regarding the concerns that
10 technical staff had mentioned regarding the plan changes. I
11 forwarded copies, and so did Ms. Kamen, to the parties; and
12 it's made, been made a part of the public record as Exhibit
13 172. I should note, there's an error on the exhibit list.
14 It says, Exhibit 172 says e-mail exchange dated June 17.
15 It's actually June 18, 2013.
16 MS. ROSENFELD: And, Mr. Grossman, if I may speak
17 to that e-mail exchange just for a moment --
18 MR. GROSSMAN: Can you hold off for one second?
19 MS. ROSENFELD: Oh, certainly. Certainly.
20 MR. GROSSMAN: I should mention that there was
21 also, I just received, just before I came down here, an
22 e-mail from Ms. Kamen. It's dated today at 9:17, and let me
23 mark that as Exhibit 173, and I'll read it to you since it's
24 short. It's an e-mail from Renee Kamen to me regarding the
25 proposed pedestrian path and that e-mail reads: Marty, the

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1 applicant is correct regarding the ADA Accessibility because
2 of the bump-outs, parens, and the fact that there was
3 supposedly no wall obstructing a wheelchair for movement,
4 closed parens, semicolon; however, comma, we have never
5 accepted that, parens, from my recollections in talking with
6 other site planners in our area team, closed parens, and we
7 require a minimum five-foot standard, parens, which can be
8 found in the road code, closed parens, period. Yes, we
9 understand that this is on private property; however, staff
10 is looking from a practical standpoint and whether or not
11 that would really provide the best circulation for
12 pedestrians and anyone who uses this, quote, path, unquote,
13 and safety, period. We collectively agree that no, comma,
14 three feet is not acceptable, period. It is not safe and it
15 does not provide a good circulation, period. In addition,
16 there is no, quote, protection, unquote, from a vehicle
17 swinging into the pedestrian path, period. Hope this helps.
18 So that's Exhibit 173.
19 All right. Now, did you want to say something
20 regarding the e-mail exchange, Ms. Rosenfeld?
21 (Exhibit No. 173 was marked
22 for identification.)
23 MS. ROSENFELD: Yes. Ms. Kamen in her e-mail had
24 suggested that Kensington Heights Civic Association had
25 requested that the Planning Board hold a hearing on the

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1 proposed amendments. We did ask that the Board supplement
2 its comments but didn't realize that it would evidently feel
3 compelled to hold a public hearing. We are not seeking
4 another Planning Board hearing, and we will follow up in
5 writing to confirm to you and Ms. Kamen as well --
6 MR. GROSSMAN: All right.
7 MS. ROSENFELD: -- that that's the case.
8 MR. GROSSMAN: Yes. I indicated in one of my
9 responses, which should be part of Exhibit 172, that when
10 Ms. Kamen finally formally responds to all of this, I asked
11 her to indicate whether the Planning Board intends any
12 further commentary or action. So we'll see, but yes, I
13 think that would be helpful, if that's your position, that
14 you do let the technical staff know in writing so there's no
15 misinterpretation.
16 Any preliminary matters, Ms. Harris?
17 MS. HARRIS: Yes, and I hesitate to mention this.
18 Unfortunately, I'm concerned that we don't have enough
19 hearing dates, just knowing where we are now and the fact
20 that we still have four witnesses that have not yet been on
21 that we need to put on, plus we need to call Dan Duke back
22 to discuss the revised plan. And so rather than waiting
23 until August 2nd, I think it may be efficient if we start
24 thinking about that, and so either by the end of today or
25 the beginning of the next hearing we can have identified

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1 additional dates.
2 MR. GROSSMAN: All right. What I'd ask the
3 parties to do then is to get together off the record and see
4 if you can agree on a series of additional dates. How many
5 additional dates do you think we're going to need here?
6 You're concerned about too few. I'm concerned that we have
7 too many in terms of summarizing testimony.
8 MS. HARRIS: I understand that. To be safe, I
9 would say three or four, just to have them identified, and
10 hopefully we don't need three or four additional dates.
11 MR. GROSSMAN: All right.
12 MS. HARRIS: I mean, it's a little difficult for
13 me to judge how long opponents' case will be.
14 MR. GROSSMAN: All right. When you do this, would
15 you check to make sure that you're not in conflict with
16 hearings that are already scheduled, and -- because we'd
17 prefer to use our hearing room; it's much easier for my
18 administrative staff -- and also that Wednesdays, as you
19 know, are taken up by the Board of Appeals in that hearing
20 room, although I'm not sure what their schedule is for the
21 summer. You can check with Katherine Freeman and the Board
22 of Appeals and see if they're meeting this summer. So they
23 may conceivably be free on Wednesdays. Mondays and Fridays
24 are usually the best days to do it in light of that.
25 MS. HARRIS: And are there any dates that you are

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1 not going to be available in August or --
2 MR. GROSSMAN: I don't know. My wife hasn't told
3 me yet. So, so --
4 MS. HARRIS: Okay. Well --
5 MR. GROSSMAN: -- let's see what, you know, if we
6 have agreeable dates by the parties, and then I'll also
7 check our schedule --
8 MS. HARRIS: Okay.
9 MR. GROSSMAN: -- and we can see.
10 MS. HARRIS: Thank you.
11 MR. GROSSMAN: Okay. Any other preliminary
12 matters?
13 MS. HARRIS: Not from me.
14 MR. GROSSMAN: Ms. Rosenfeld?
15 MS. ROSENFELD: Yes. The exhibit that
16 Mr. Sullivan was testifying about yesterday which had some
17 modifications from his prior submission, I just would like
18 to ask that that be marked as a separate exhibit. We did
19 receive copies, thank you.
20 MR. GROSSMAN: Okay. Yes, I haven't -- that
21 hasn't been filed with me yet --
22 MS. ROSENFELD: Oh.
23 MR. GROSSMAN: -- any amended version.
24 MR. GOECKE: I sent a copy to you yesterday.
25 MR. GROSSMAN: You sent a copy?

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1 MR. GOECKE: I did. I e-mailed everybody
2 yesterday. Didn't come through?
3 MR. GROSSMAN: Oh, I did not get that, I don't
4 believe.
5 MS. CORDRY: Yes, I doubt it. It's pretty big.
6 MS. HARRIS: Oh, it may have gotten kicked back.
7 MR. GOECKE: It may have been too big.
8 MR. GROSSMAN: Yes, we have, we're the government,
9 we have limited capacity, unless you're in the NSA. So --
10 MR. GOECKE: I will --
11 MR. GROSSMAN: So, yes, if you could give us a
12 hard copy as well as a disk, that would be helpful.
13 MR. GOECKE: I will do that.
14 MR. GROSSMAN: I understand the NSA keeps things
15 in, what is it called, yottabytes. I didn't even know what
16 a yottabyte was until I heard that.
17 MR. GOECKE: It's very small but very powerful
18 maybe.
19 MS. CORDRY: I think it's actually a --
20 MR. GROSSMAN: No. I think it's very large. It's
21 a --
22 MS. CORDRY: -- I think it's a, I think it's a
23 yottabyte. I think --
24 MR. GROSSMAN: Yotta?
25 MS. CORDRY: -- Yoda is the guy with the ears.

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1 It's a yottabyte.
2 MR. GROSSMAN: Yes, they -- well, you're right.
3 It's actually pronounced yotta, I guess, because it's
4 Y-O-T-T-A, although they pronounced it Yoda on the, on TV.
5 So --
6 MS. CORDRY: Hopefully we don't have, we don't
7 have any other Star Wars aspects play here.
8 MR. GROSSMAN: Okay. But in any event, sure,
9 we'll make it an exhibit.
10 MS. ROSENFELD: Okay.
11 MR. GROSSMAN: Do you have an extra hard copy,
12 Mr. Goecke?
13 MR. GOECKE: I don't know. I don't know if
14 Mr. Sullivan has an extra.
15 MR. SULLIVAN: I don't of the marked -- the
16 changes are some highlighted red --
17 MR. GROSSMAN: Right.
18 MR. SULLIVAN: -- portions, and I don't have a
19 copy of that with me.
20 MR. GROSSMAN: All right. Well, we'll --
21 MR. GOECKE: We'll bring one.
22 MR. GROSSMAN: Yes. We'll make that Exhibit 174,
23 and this is modified Sullivan -- is it a slide presentation
24 or PowerPoint?
25 MS. ROSENFELD: PowerPoint.

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1 MR. GOECKE: PowerPoint presentation, sure.
2 MR. GROSSMAN: PowerPoint presentation.
3 (Exhibit No. 174 was marked
4 for identification.)
5 MR. GROSSMAN: Okay. Anything else that we need
6 to cover preliminarily?
7 (No audible response.)
8 MR. GROSSMAN: All right. Then we should resume
9 with the cross-examination of Mr. Sullivan. Mr. Sullivan,
10 you're still under oath.
11 (Witness was previously sworn.)
12 THE WITNESS: Understood.
13 MR. GROSSMAN: Okay.
14 MR. GOECKE: Both Mr. Sullivan's testimony as well
15 as slightly preliminary, but an issue came up when he
16 testified on Monday about Slide 25 and some apparent
17 discrepancies between the numbers he had on Slide 25, which
18 was Table 1-12 in his environmental report, and you had
19 asked us to come up with an explanation for that. We have
20 that. Towards the end of the hearing, Ms. Cordry also
21 approached me and said that the calculations he had done on
22 the flip chart --
23 MR. GROSSMAN: Right.
24 MR. GOECKE: -- were a bit confusing and that it
25 was difficult for her, at least, to follow some of them.

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1 And so yesterday we took the liberty to put together sort of
2 an explanation of his explanation --
3 MR. GROSSMAN: Are we going to let the witness --
4 MR. GOECKE: -- that we think may be helpful for
5 everybody.
6 MR. GROSSMAN: All right. Let's let the witness
7 testify as to what the explanation is.
8 MR. GOECKE: Okay. And I've got, I have hard
9 copies I can distribute.
10 MR. GROSSMAN: All right. And I think I misspoke.
11 I said continue with the cross-examination. I should have
12 said the direct examination --
13 MR. GOECKE: The direct examination.
14 MR. GROSSMAN: -- of Mr. Sullivan.
15 MR. GOECKE: So I've got 10 copies here. That
16 should be enough for everybody.
17 MR. GROSSMAN: Thank you, sir.
18 THE WITNESS: Uh-huh.
19 MR. GROSSMAN: All right. So this will be Exhibit
20 175, which is documentation of Mr. Sullivan's Slide 25
21 calculations. Okay.
22 (Exhibit No. 175 was marked
23 for identification.)
24 MR. GOECKE: Okay.
25 MR. GROSSMAN: Shall we proceed?

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1 DIRECT EXAMINATION (Resumed)
2 BY MR. GOECKE:
3 Q And, Mr. Sullivan, perhaps we should go to -- do
4 you have your main PowerPoint? Do we have Slide 25 that we
5 can pull up --
6 A Yes, we can.
7 Q -- just to refresh everyone's recollection
8 about --
9 A You want me to go to the PowerPoint. Let's see,
10 Slide --
11 Q Okay. So this is Slide 25 from Exhibit 173, I'm
12 sorry, 174, and when you testified on Monday, the fourth
13 bullet point down beneath the table or chart there, it talks
14 about the carbon monoxide eight-hour level, and tell us
15 again what it is that that bullet point states.
16 A What I was doing in this particular bullet point
17 was using carbon monoxide eight hours as an example, and the
18 example was simply intended to show that because the queue
19 source is relatively small, that even if we were to scale up
20 from 20 cars per day in queue, as average, eight hour, which
21 we modeled it, we scaled up to 32 cars, increased the
22 queuing numbers, that it would make a small difference in
23 the overall concentrations, and I mentioned it would go from
24 28 percent, if I used the 20, up to 32 percent if I used the
25 32. And if I can go to the PowerPoint, I can explain --

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1 Q And just let me stop you. So your model
2 assumption was that there would be 20 cars queued. After
3 going to Sterling, after Mr. Guckert went to Sterling and
4 counted the cars, they actually counted 32 cars in the queue
5 on --
6 A As the maximum eight-hour.
7 Q As the maximum eight-hour --
8 A Correct.
9 Q -- amount. And so --
10 MR. GROSSMAN: As the maximum eight-hour amount or
11 as the average eight-hour amount?
12 THE WITNESS: It was the maximum eight hours that
13 he had, had measured in his study.
14 MR. GROSSMAN: Well, let me understand. It was
15 the maximum queue during an eight-hour period; is that what
16 you're saying?
17 THE WITNESS: Correct.
18 MR. GROSSMAN: Okay. Because you say averaging
19 time on the left-hand side column.
20 THE WITNESS: Right. For the modeling we used the
21 eight-hour averaging for carbon monoxide for one of the
22 analyses, and so we identified the max eight-hour queue to
23 match up to that modeling, and it was higher than we
24 originally had approximated.
25 MR. GROSSMAN: I just want to make sure I

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1 understand what that, those 20 and 32 represent. If I
2 understand correctly, you made the assumption that the
3 maximum number of cars in the queue during an eight-hour
4 period would be 20; you found from the experience at
5 Sterling that it would be actually 32, is that correct?
6 THE WITNESS: That is correct.
7 MR. GROSSMAN: Okay.
8 MR. GOECKE: Okay.
9 MR. GROSSMAN: I see.
10 THE WITNESS: So this was used as an example to
11 indicate that even with a change being made to that
12 particular source, that because it was a small source, that
13 it would make a small difference in the overall situation,
14 where we'd go from 28 percent of the standard to 32 percent
15 of the standard.
16 BY MR. GOECKE:
17 Q Okay. And when you say of the standard, what are
18 you referring to?
19 A I'm referring to the eight-hour carbon monoxide
20 standard of 10,000 micrograms per cubic meter.
21 Q Okay. So the EPA's NAAQS standard is 10,000 --
22 what's the unit again?
23 A Micrograms per cubic meter.
24 Q Micrograms per cubic meter, and --
25 MR. GROSSMAN: And just for clarity of the record,

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1 when you use the term micrograms and it's written out, you
2 use a mu, as I -- like a u with a little extra line down the
3 left-hand side. That stands for micro, correct?
4 THE WITNESS: Yes, sir.
5 MR. GROSSMAN: Okay. And the word is mu with an
6 m, not a u. It's mu from the Greek letter mu.
7 MR. GOECKE: Okay.
8 BY MR. GOECKE:
9 Q Okay. And so that conclusion is that the
10 contribution of carbon monoxide from, from the gas station
11 operations, including the queuing cars, would still be at
12 about, less than a third of what the Ambient Air Quality
13 Standards are?
14 A Correct.
15 Q Okay. And now I believe it was Ms. Rosenfeld who
16 raised the point that on Table 1-12 of your environmental
17 report, the numbers didn't seem to correspond to that. Can
18 we go to Table 1-12 now?
19 A Yes. This is from the supplement we provided
20 yesterday, but this is the table in question, and I can
21 explain the basis for the numbers. We're using, they were
22 based upon the rural --
23 MS. ROSENFELD: Excuse me.
24 THE WITNESS: -- treatment.
25 MR. GROSSMAN: Hold on one second.

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1 MS. ROSENFELD: Just for clarification, which
2 exhibit are you talking about?
3 MR. GROSSMAN: What exhibit is Table 1-12 in?
4 THE WITNESS: It's in the, that's in the November
5 2012 environmental report. That's where I extracted this
6 from.
7 MR. GROSSMAN: So that would be Exhibit --
8 MR. GOECKE: And it's also contained in the
9 document we handed out today.
10 MR. GROSSMAN: All right. The environmental
11 report is 15(a).
12 MS. ROSENFELD: And what page in that report?
13 MR. GROSSMAN: Table 1-12.
14 THE WITNESS: CO tables, I believe it's on page
15 68. Let me confirm that.
16 MS. HARRIS: Page 67.
17 MR. GROSSMAN: Page 67.
18 THE WITNESS: That's correct.
19 MS. ROSENFELD: Thank you.
20 THE WITNESS: So the focus is on the rural values,
21 and if you look at the total modeled, which would be the
22 modeling of the incremental Costco gas station plus
23 everything else we modeled, which would be the ring road,
24 University, all those things, that we find it's 2798, which
25 is approximately 28 percent of the standard of 10,000.

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1 So my, when I was looking -- on Monday I was
2 looking down the row in the bottom, the background plus
3 modeled, this value. That did not add up. That 28 to 32 is
4 based upon the total modeled value prior to background. So
5 in order to get the 32 percent --
6 MR. GROSSMAN: Well, let's, before you get to the
7 32 percent, let me just understand what you're saying.
8 Under the column headed CO eight-hour on Table 1-12, right
9 under 10,000 it says 2,798.
10 THE WITNESS: Correct.
11 MR. GROSSMAN: You're saying because that is
12 approximately 28 percent of 10,000, is that correct?
13 THE WITNESS: Yes, correct.
14 MR. GROSSMAN: So that's where the 28 percent
15 comes from?
16 THE WITNESS: Yes, sir.
17 MR. GROSSMAN: Okay.
18 THE WITNESS: So the next step, if I look at the
19 gas queuing, you see the contribution there. It's
20 approximately 619. We have separated out the impacts on the
21 left column here such that you can take any individual cell
22 entry and you can factor it if you choose to. The emissions
23 will go linear with the concentration. So the 619, if you
24 multiply that --
25 MR. GROSSMAN: Well, let me -- explain. What do

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1 you mean by emissions will go linear with the
2 concentration --
3 THE WITNESS: If I --
4 MR. GROSSMAN: -- what does that phrase mean?
5 THE WITNESS: If I were to double the emissions
6 for the gas queue, I would double the concentration --
7 MR. GROSSMAN: Okay.
8 THE WITNESS: -- from that incremental source.
9 MR. GROSSMAN: Okay. Is it also linear with the
10 amount of gas that's pumped?
11 THE WITNESS: No, not exactly, because these,
12 these contributions include other sources, such as the ring
13 road --
14 MR. GROSSMAN: Okay.
15 THE WITNESS: -- and so forth. It would not be,
16 it would not be directly linear.
17 MR. GROSSMAN: Okay.
18 THE WITNESS: So we took, we have taken this 619
19 incremental gas queue, multiplied it by 32, divided it by
20 20. In other words, we've linearly scaled up those
21 emissions -- and therefore it would scale up the
22 concentrations -- by that factor.
23 MR. GROSSMAN: You multiplied it by 32 -- why did
24 you multiply it by 32?
25 THE WITNESS: Because the previous slide was

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1 showing that the actual maximum queue was 32 cars and we
2 modeled it with 20 cars.
3 MR. GROSSMAN: Okay. Oh, I see. So you scaled it
4 up by 32 over 20, in effect; there's a factor that you
5 scaled it up by?
6 THE WITNESS: Correct, or another way to look at
7 it, we've divided out the 20 --
8 MR. GROSSMAN: Right. I understand.
9 THE WITNESS: -- multiplied it times the 32.
10 MR. GROSSMAN: I understand. Okay.
11 THE WITNESS: So if you take that, that value you
12 get from that mathematical calculation and identify how much
13 that increased and added it on to the total modeled of 2798,
14 you would get approximately 3200, which is 32 percent of the
15 standard.
16 MR. GROSSMAN: Okay.
17 THE WITNESS: In the supplemental document, I
18 provide those numbers and the basis for those calculations
19 and also show what the difference would be if you had, we
20 had used the total modeled plus the background, and in both
21 examples it's a four percent increase shown. So that's --
22 BY MR. GOECKE:
23 Q And you're talking about Exhibit 175 that we
24 handed out today?
25 A Correct, the current supplement. Now, there were

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1 other aspects to that supplement. Should we go through
2 those now or just --
3 Q Let's talk a little bit about those. So I don't
4 want to get into a great amount of detail, but as I said a
5 moment ago, this is an effort to respond to Ms. Cordry's
6 request that some of the calculations done in the flip chart
7 on Monday's hearing were a bit difficult to follow. And so
8 if you could just generally describe what it is that you
9 were trying to accomplish with those calculations on the
10 flip chart and how they pertain to your conclusions in this
11 case.
12 A Yes. After Monday I, I agreed that the flip chart
13 calculations need to be quality-controlled and checked, and
14 I'm sure that Dr. Cole and others would like to do so, and
15 in this document I have provided the basis for those
16 calculations so they can replicate the calculations
17 themselves, and I'll just summarize. The, the first was we
18 made the statement that there's quite a bit of embedded
19 conservatism in the modeling.
20 Q And what do you mean by that?
21 A Meaning that because of the assumptions that we've
22 made that act to overstate the emissions from Costco, that
23 the modeling is substantially higher than you expect to get
24 if you were to more accurately and less conservatively model
25 those sources. We have built-in conservatism to overstate.

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1 And I gave you some examples the other day, and this
2 information here provides documentation that can be
3 confirmed and checked, and this first one is, we mentioned
4 the fact that the parking lot calculations that we made for
5 those two Costco parking lots substantially overstate the
6 parking lot impact from the entire mall.
7 Q And why is that?
8 A There were two main factors, and I give the basis,
9 which I won't go through all of the details unless there's
10 questions. The first was the time to get into a parking
11 space and then the time to leave a parking space. We
12 assumed it would take five minutes for the average car to
13 find a place to park and then leave, so two-and-a-half
14 minutes each way, and clearly that has a substantial amount
15 of excessive conservatism because I'll challenge anyone to
16 go into a parking lot, try to drive five miles an hour. I
17 contend, I tried it a few a times. I can't go much less
18 than seven-and-a-half miles an hour. You feel like you're
19 walking.
20 So these calculations are based upon
21 seven-and-a-half miles an hour. We show the distances to
22 the lot in the center of the parking garage and the western
23 parking lot and show that it really is more like two
24 minutes. And so that factor alone acts to increase the
25 emissions from the Costco lots by a factor of 2.5.

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1 Q So, basically, you assumed that cars would be
2 traveling for a longer period of time than in reality they
3 probably will?
4 A Correct --
5 Q Okay.
6 A -- traveling and emitting much longer than they
7 actually would, and the basis is provided there --
8 Q Okay.
9 A -- and we show the figures, and so the map can be
10 replicated and the distances can be checked and so forth in
11 the documentation.
12 MR. GROSSMAN: What you're referencing now is
13 Exhibit 175? This is --
14 THE WITNESS: Yes.
15 MR. GROSSMAN: -- in your charts? Okay.
16 THE WITNESS: Now, the other assumption that we
17 made -- and this is a general assumption -- is that within
18 the mall, which would be the ring road, the parking lots and
19 so forth, we don't have data specifically on how emissions
20 change hour by hour during the day. We do have estimates
21 for the roadways. So we made the conservative assumption
22 that within the ring road and the parking lots, we would
23 take the peak-hour traffic flow and assume that that happens
24 all the time the mall is open. We purposely overstated
25 traffic. And the intent of this overstating is to try to

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1 reach consensus that we are not understating the impacts
2 from Costco. And if you look, I mean, using the --
3 MR. GROSSMAN: The impacts from Costco gas
4 station?
5 THE WITNESS: Incremental Costco gas station,
6 thank you.
7 MR. GROSSMAN: Yes. We have to make the
8 distinction because Costco has a warehouse too.
9 THE WITNESS: Correct, thank you.
10 MR. GROSSMAN: Okay.
11 THE WITNESS: So the, what we have done in this
12 example is saying, well, using as a default estimate, let's
13 use the hourly factors that we used on the roadways
14 themselves to show you when the traffic tends to peak and
15 when it tends to ebb and let's identify the peak value there
16 relative to the mean, assess the peak-to-mean ratio. And
17 when we do that, the peak is about 84 percent higher than
18 the mean.
19 So using that as an indication of conservatism
20 within the mall, we have a factor of 1.84 that would be
21 multiplied times the factor of 2.5. Both of those factors
22 combine to produce substantial overestimation within the
23 parking lots.
24 MR. GROSSMAN: I don't understand. Why are you
25 multiplying it by 2.5?

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1 THE WITNESS: Two point five is for the fact that,
2 much like the queuing, we assumed they went for five hours.
3 They -- five minutes, rather -- they actually went, in
4 parking, they went two minutes. So we overstated by a
5 factor of five divided by two.
6 MR. GROSSMAN: Right.
7 THE WITNESS: In the case of the peak-to-mean, we
8 overstated by a factor of 1.84 divided by one.
9 MR. GROSSMAN: All right.
10 BY MR. GOECKE:
11 Q So the 1.84 represents, you're modeling for 1.84
12 times the actual amount of cars that are probably going to
13 be in the parking lots?
14 A Correct, because the peak, the p.m. peak, which is
15 the peak, that doesn't happen every hour the mall is open --
16 Q Okay. And the --
17 A -- there's light and there's heavy periods. We
18 assumed it's heavy all the time.
19 Q And the 2.5 represents the, the 2.5 times the --
20 I'm sorry. You multiplied by 2.5 because the duration for
21 which you're modeling the emissions to come from the cars is
22 2.5 times what you would really expect it to be?
23 A Correct.
24 Q So it's 1.84 times the amount of cars that are
25 coming to the mall and 2.5 times the amount of time that

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1 they're actually driving around the mall?
2 A Correct.
3 MR. GROSSMAN: I understand what you did. Now I'm
4 trying to understand why it is, what piece of useful
5 information the factoring or multiplying 1.84 times 2.5
6 gives you. What does that number, the resulting number,
7 what does that mean?
8 THE WITNESS: Well, when we, when we take those
9 two numbers and multiply them and also multiply it times
10 what fraction of the cars actually do go to those lots, you
11 know, based upon the traffic study, we can project what the
12 actual percentage of the total mall parking we're putting
13 into those two parking lots at Costco, and these
14 calculations show the four numbers that are multiplied to
15 get there, as shown in the flip chart that's visible to the
16 right of the screen.
17 That shows 38 percent of the vehicles that, you
18 know, should be in the Costco lots times, we assumed 90
19 percent of the cars that were going along that portion of
20 the ring road would pull into those lots, and then you see
21 the multiplying times the five over two to account for the
22 conservatism in the travel time, then times 1.84 because we
23 used a peak emission rate. I showed in that calculation
24 that that would end up, effectively, assuming that 157
25 percent of the parking lot emissions -- which is more than

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1 100 percent, obviously -- occur in the two Costco lots
2 which, obviously, that doesn't happen but that would give it
3 a conservatism of approximately 50 percent overall.
4 MR. GROSSMAN: All right. So you're, in essence,
5 you're doing that multiplication of these three factors in
6 order to estimate a level of conservatism which you say is,
7 comes out to about 57 percent more than the, the actuality
8 would be?
9 THE WITNESS: That's correct.
10 MR. GROSSMAN: Okay.
11 THE WITNESS: And just one point of clarification
12 that is in this document. When I wrote on the board 38
13 percent, it's actually 35 percent and that's clarified in my
14 response.
15 MR. GROSSMAN: Okay.
16 BY MR. GOECKE:
17 Q And, again, the purpose of all these calculations
18 is your modeling of what?
19 A It's really showing that the modeling was designed
20 to overstate. I mean, generally, that's how modeling is
21 done. We do not want to understate exposure or risk. I
22 mean, that's how our practice has operated since we were
23 established, and so that's the nature of why we did it. And
24 we could have removed some of this conservatism. Our goal
25 was to seek consensus, and we expected by having additional

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1 conservatism that we could probably have a better chance of
2 achieving that.

3 MR. GROSSMAN: All right. And, Mr. Goecke, when
4 you provide, don't forget to provide me with --

5 MR. GOECKE: An electronic copy?

6 MR. GROSSMAN: -- a -- pardon me?

7 MR. GOECKE: An electronic copy?

8 MR. GROSSMAN: Electronic copy of Exhibit 175 as
9 well, preferably in Microsoft Word.

10 MR. GOECKE: I will.

11 MR. GROSSMAN: Thank you.

12 THE WITNESS: We have a piece in here also
13 clarifying the statements made in the flip charts that the
14 idling of trucks at the Costco warehouse were conservatively
15 addressed in terms of the idling time, and this explains it
16 in detail. And I won't go through each calculation unless
17 you want me to, but basically, the flip chart showed
18 yesterday that based upon the MOBILE6.2 emission rates, that
19 the cars -- the trucks would be, each one, idling 96
20 minutes. The policy of Costco is 10 minutes.

21 MR. GROSSMAN: Ninety-six minutes out of what
22 period of time?

23 THE WITNESS: Each -- there's 10 heavy-duty
24 trucks, 10 light-duty trucks that in the course of one day,
25 each of those trucks would idle for 96 minutes.

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1 MR. GROSSMAN: Wait a minute. Each of those
2 trucks would idle for 96 minutes, or the total combined
3 idling of those trucks would be 96 minutes?

4 THE WITNESS: Each truck. Each truck would idle
5 for 96 minutes. I further clarify in this document, I mean,
6 relative to the information that Dr. Cole has provided that
7 shows that the MOVES model will produce more emissions at
8 idle, that I have, if I were to scale up on that basis, it
9 would be approximately a factor of 2.4 conservatism or 24
10 minutes instead of the 10. So I show it both ways in this
11 documentation for clarity.

12 Either way, it's showing that the assumptions that
13 we've made in terms of the trucks idling at the warehouse
14 are overstating what they actually will be allowed to do by,
15 by policy. And what that means is that if a statement were
16 to be made that Costco modeling understates the impacts from
17 warehouse operations, my response would be, well, looking at
18 the conservatism, the approximately, at least a 2.5-fold
19 conservatism, and looking at the proximity of the Costco
20 warehouse to the neighborhood, the school, and the pool,
21 that it's clear that we are not underestimating but, rather,
22 overestimating the contribution from warehouses in general.

23 MR. GROSSMAN: All right. I have to say, I don't
24 follow the figures involving the 96 minutes of idling time
25 per vehicle. So hold on a second while I look at what you

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1 said here. All right. Would you explain this to me again?
2 How did you get to 96 minutes of idling time per truck when
3 you say that's -- and how does that, how does that match the
4 10-mile, the 10 minutes of idling time per truck that Costco
5 has as a national policy? I don't understand how that
6 connects.

7 THE WITNESS: May I go to the flip chart to make
8 it easier?

9 MR. GROSSMAN: You may.

10 THE WITNESS: In the supplement we provided today,
11 we identify for the record what file we're referring to and
12 what spreadsheet and what worksheet this 100, this value of
13 100 miles comes from. What we're assuming in the modeling
14 is that for light-duty vehicles and heavy-duty vehicles,
15 that the amount of miles that we're modeling the idle is
16 100. Now, I know when you're idling, you're not going
17 anywhere, but in MOBILE6.2, the emission model we used, 2.5
18 miles an hour is the lowest speed and that's used for
19 idling.

20 So we have 100 miles we're accounting for, and I'm
21 just talking right now about heavy-duty diesel trucks --

22 MR. GROSSMAN: Well, where does the 100-mile
23 figure come from?

24 THE WITNESS: The 100 miles was the assumption
25 that we made, and I can, I'll derive it here now, but we

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1 assumed it's 100 miles of travel. If you divide the 100
2 miles by 2.5 -- and the reason we're doing this division is
3 because, according to the MOBILE6 guidance, that the model
4 understates an idle and it recommends taking the emissions
5 from 2.5 miles an hour and multiplying those times a value
6 of 2.5.

7 BY MR. GOECKE:

8 Q Where does the 100 miles come from?

9 A Well, that was the assumption that we used, and
10 basically, what the assumption means is we're assuming that
11 each, each truck will be idling there for, for four minutes.
12 We assumed a four-minute idle period for each truck during
13 their operations -- four miles, rather, of idling --

14 MS. CORDRY: Could I --

15 THE WITNESS: -- per truck. That's our
16 assumption.

17 MS. CORDRY: Is it possible to ask questions as we
18 go along? Would it --

19 MR. GROSSMAN: I'm sorry?

20 MS. CORDRY: Can we ask questions as we go along?

21 MR. GROSSMAN: Well, let me ask the questions as
22 we go along --

23 MS. CORDRY: Okay.

24 MR. GROSSMAN: -- and then I'll open it up to
25 anybody else --

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1 MS. CORDRY: Okay.
2 MR. GROSSMAN: -- who needs it for clarification
3 purposes. All right. Why don't you repeat that,
4 Mr. Sullivan.
5 THE WITNESS: In other words, the bottom line is
6 we assumed that each truck would have the equivalent
7 emissions of four miles. That was the assumption that we
8 made. That's a given. So I was describing it ends up
9 totaling 100 miles of travel and, because of the fact
10 that --
11 MR. GROSSMAN: That's what I don't understand
12 because four times 2.5 is 10, not 100. I don't understand
13 where you get the 100 from.
14 THE WITNESS: Well, let me work backwards here.
15 We have four miles per truck --
16 MR. GROSSMAN: Right.
17 THE WITNESS: -- times 10 trucks, is 40 miles.
18 MR. GROSSMAN: Okay.
19 THE WITNESS: And then we had the factor of 2.5
20 built in with this here, the fact that MOBILE6 is low on
21 idling emissions. So we worked our way backwards. We take
22 that 100. We divided it -- we divide it down to 40 miles
23 because it understates emissions. Take our 40, is 10
24 trucks. It ends up being the equivalent of four miles per
25 truck on idling emissions. So it works its way down to that

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1 point and that was our, that was our basic assumption right
2 here.
3 If it's four miles per truck and your trucks are
4 traveling at two-and-a-half miles an hour equivalent, it's
5 going to take 1.6 hours to get to four miles emitted. One
6 point six hours is 96, is 96 miles, 96 -- 96 minutes, I'm
7 sorry.
8 MR. GROSSMAN: Minutes, all right.
9 THE WITNESS: So it's 96 -- 96 minutes is what the
10 actual assumption is, and actually, Costco's policy is 10
11 minutes. So, on that basis, it's approximately 10 times
12 higher emissions than Costco's policy would allow. And the,
13 like I said, the spreadsheets, all the way to replicate, you
14 know, this value, which is the key value, is shown in the
15 document that I will get to this morning.
16 I also clarified that if we were to use Dr. Cole's
17 data, which describes the fact that MOVES does understate an
18 idle, particularly emissions, by more than a factor of 2.5
19 -- and I don't contest that -- is that if we were to then
20 apply that extra safety factor, it would go from being 96
21 minutes of idle down to 24 minutes of idle, but then it
22 would be an approximate factor of 2.5.
23 MR. GROSSMAN: I don't understand that. Why would
24 adding an extra factor reduce the amount of minutes that
25 you're assuming per truck? How does that increase the --

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1 THE WITNESS: The emissions would be two and a
2 half --
3 MR. GROSSMAN: -- conservatism?
4 THE WITNESS: Each minute they operated, they'd
5 emit 2.5 times more particulate emissions. They're emitting
6 more per minute; therefore, you'd have fewer minutes.
7 MR. GROSSMAN: Well, I guess, I guess what I don't
8 understand is how you get from that to any projections. So,
9 okay, they're idling fewer minutes. I don't see how that
10 particularly adds conservatism to your model. I just don't.
11 THE WITNESS: Well, if I go with that, with that
12 approach -- and I will accept the fact that the 10x may be
13 on the high side because, you know, MOBILE6 versus MOVES is
14 an issue -- but if you work out the math and you look at the
15 actual idling time, if you use the values more like MOVES,
16 if we applied, increased our emission rates on MOBILE6, we
17 would have an idle time in this case of 24 minutes to
18 produce the amount of emissions that we're showing. Take 24
19 minutes we're projecting with MOVES, 96 minutes with
20 MOBILE6.2, but Costco only allows them to idle for 10
21 minutes. So either way you look at it, it's either a factor
22 of two-and-a-half or a factor of tenfold extra idling that's
23 being allowed for as compared to what would be allowed by
24 the policy.
25 MR. GROSSMAN: What do you mean by being allowed

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1 for? You mean that your model is projecting a possible
2 amount of pollution that's a factor of either 2.5 or 10
3 times the amount? Is that what you mean by allowed for?
4 THE WITNESS: That is correct. We're modeling
5 more idling and, therefore, more emissions than will
6 actually occur because of the policy that Costco has in
7 place.
8 MR. GROSSMAN: So what you're saying is, your 96
9 minutes of idling time in your model is an overstatement by
10 a significant factor over what will actually occur?
11 THE WITNESS: That is correct.
12 MR. GROSSMAN: And therefore your estimates of the
13 amount of pollutants would be an overstatement of what would
14 actually occur?
15 THE WITNESS: That is correct, and the relevance
16 to this matter would be the fact -- the point has been
17 brought up that we are not modeling all of the loading docks
18 at the mall, and this analysis does not do that, but the
19 fact that we're modeling Costco, the closest loading dock to
20 the school, the pool, and the homes, by at least a factor of
21 2.5 conservatism, that that more than compensates for if we
22 had tried to model the Target or the general loading docks
23 at the mall.
24 MR. GROSSMAN: All right. Ms. Cordry, did you
25 have questions for clarification?

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1 MS. CORDRY: Okay. I guess the one question is,
2 you say you're starting with 100 miles an hour, right?
3 THE WITNESS: Correct.
4 MS. CORDRY: Now, if that's understated, you
5 should presumably be multiplying that by 2.5, shouldn't you,
6 as opposed to dividing? It looks to me like you're really
7 working the other way up. You're starting with the 40 miles
8 an hour, and you're saying that translates up to 100 miles
9 an hour --
10 THE WITNESS: No. Look at it --
11 MS. CORDRY: -- because of the understatement
12 factor.
13 THE WITNESS: Look at it this way: We're saying
14 that MOBILE6.2 direct output is two-and-a-half times low.
15 So, so --
16 MS. CORDRY: Okay. So shouldn't you multiply?
17 THE WITNESS: -- the 100 miles really is
18 equivalent to the 40 miles.
19 MS. CORDRY: Well, no. If it's low, it should be
20 higher, shouldn't it?
21 THE WITNESS: Well, no. We -- this, this factor
22 we put into all our modeling. In other words, for the
23 queues we have a factor of 2.5 scale-up in all our modeling.
24 I'm just taking this factor out of this equation, saying
25 we're already accounting for that, and I'm using the 40 over

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1 10 as my basis.
2 MS. CORDRY: Well, that's what I mean. You're
3 really assuming a 40-miles-an-hour being driven around here:
4 four miles per truck, 96 miles --
5 THE WITNESS: Well, if you look at the -- the
6 spreadsheet will show 100 miles is built in there.
7 MS. CORDRY: Well, I understand, but if, I -- my
8 understanding is, if you say a number is too low, you ought
9 to be scaling it up, not dividing it.
10 MR. GROSSMAN: I had the same reaction,
11 Ms. Cordry.
12 THE WITNESS: Right.
13 MR. GROSSMAN: So either you're, there's -- either
14 there's something wrong with your model, something wrong
15 with your explanation, or something wrong with us.
16 THE WITNESS: It's my explanation.
17 MR. GROSSMAN: I prefer the first two --
18 THE WITNESS: We're saying this is really, this is
19 really 40 miles.
20 MS. CORDRY: Right. That's what I mean.
21 THE WITNESS: Right.
22 MS. CORDRY: It's over 40 miles an hour --
23 THE WITNESS: Right.
24 MS. CORDRY: -- is what you're saying these trucks
25 are driving, not 100.

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1 THE WITNESS: So that's why we do have -- I'm
2 saying it's really 40 miles, that's why I'm showing this,
3 and there's 10 trucks; so it's really four miles. If I
4 didn't put this in, it'd be, it'd be more. So I'm
5 acknowledging your fact. I'm saying it's 40 miles. It's
6 not really 100 miles because MOBILE6.2.
7 MS. CORDRY: That's what I thought. We're not
8 really talking about these trucks driving 100 miles; we're
9 talking about the trucks driving 40 miles.
10 THE WITNESS: Correct.
11 MS. CORDRY: Okay.
12 THE WITNESS: And that's how -- and the math, it's
13 shown in there. Hopefully that will clarify it.
14 MS. CORDRY: I think I understand it. I just
15 understand that you're really not talking about 100 miles;
16 you're talking about 40.
17 THE WITNESS: Correct. And so the main, the whole
18 reason we're doing this is to try to put in context the
19 Costco warehouse versus what would happen if all the loading
20 docks were modeled, and I was hoping to provide some clarity
21 that we have overstated the nearby loading dock at Costco
22 and that if you had modeled Giant, Target, any of the other
23 ones, it would be substantially lower impacts than you'd
24 have here because Costco's is quite close relative to the
25 other loading docks themselves.

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1 BY MR. GOECKE:
2 Q So even using the 40 miles, you think it's still
3 2.5; it still overstates the actual emissions by 2.5?
4 A Correct.
5 MS. CORDRY: And just to clarify, we've actually
6 got two different 2.5s going here that have nothing to do
7 with each other. That 2.5 where you're dividing the four
8 down there by the 2.5 --
9 THE WITNESS: Right.
10 MS. CORDRY: -- that's completely coincidental
11 that it's -- that's a miles per hour, which is --
12 THE WITNESS: Right.
13 MS. CORDRY: -- it's completely coincidental with
14 the other 2.5, and that's an --
15 MR. GROSSMAN: I understand.
16 THE WITNESS: Correct.
17 MS. CORDRY: -- underestimation of emissions.
18 So --
19 THE WITNESS: Correct, yes.
20 MS. CORDRY: -- that's part of where we were
21 getting confused before, that you had --
22 THE WITNESS: Coincidentally, the traffic, parking
23 lot traffic was also two-and-a-half, just to make it
24 confusing. I agree.
25 MR. GROSSMAN: Okay.

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1 THE WITNESS: Is this, is this clear at this
2 point?
3 MR. GROSSMAN: Ms. Rosenfeld, clarification
4 questions?
5 MS. ROSENFELD: Yes --
6 MR. GROSSMAN: Okay.
7 MS. ROSENFELD: -- two questions. Number one,
8 could we mark that as an exhibit?
9 MR. GROSSMAN: Sure.
10 MS. ROSENFELD: And number two, maybe it would be
11 helpful if you identified it in words, at least, just what
12 those numbers mean. Like, you have the two 2.5s.
13 THE WITNESS: Certainly. I mean, the 100 --
14 MS. ROSENFELD: Like, maybe, maybe write it on
15 there so that -- in particular, 2.5s are confusing.
16 THE WITNESS: Okay. The 100 refers to miles, and
17 this is in the spreadsheet file that's referenced in the
18 documentation.
19 MR. GROSSMAN: Miles per truck, correct?
20 THE WITNESS: Total miles.
21 MR. GROSSMAN: Total miles?
22 THE WITNESS: Total miles.
23 MR. GROSSMAN: Oh, because you said it was -- oh,
24 it's 96 minutes, I'm sorry.
25 THE WITNESS: It gets to be down to truck down at

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1 this point.
2 MR. GROSSMAN: Yes, that's okay, total miles.
3 Okay.
4 MS. CORDRY: And one quick question. Can you tell
5 us which spreadsheet or what, where that --
6 MS. ROSENFELD: This one?
7 THE WITNESS: It's in, this particular spreadsheet
8 is defined in the documentation we provided this morning.
9 MR. GROSSMAN: That's Exhibit 175.
10 THE WITNESS: Correct. It's described, it's
11 described -- the actual spreadsheet and worksheet is
12 described in that particular document.
13 MS. ROSENFELD: Table 1-12?
14 MS. CORDRY: No. No. He's talking about a
15 spreadsheet.
16 THE WITNESS: No. We'll get further into it. I
17 believe it's the emissions spreadsheet. I don't remember
18 the worksheet, but it's described in there.
19 MS. CORDRY: Well, I'm just wondering where we
20 would find that as an exhibit or a document.
21 THE WITNESS: It's in the document that describes
22 the Slide 25. It's further back into the same clarification
23 document.
24 MS. CORDRY: I mean, I know there's a reference to
25 it. So I'm just wondering where that, physically that

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1 spreadsheet --
2 THE WITNESS: It's in this document.
3 MS. CORDRY: Is it hyperlinked in there or
4 something?
5 THE WITNESS: Let's see. It's in the -- idling of
6 warehouses. It's the emissions dot xls spreadsheet, and the
7 worksheet is emissions. That's where the 100 miles --
8 MS. CORDRY: I understand. I'm just saying, where
9 is that file?
10 MS. HARRIS: Is it part of your --
11 MS. CORDRY: Is it hyperlinked into your
12 spreadsheet?
13 THE WITNESS: It's part of our record that was
14 provided a long time ago. It's --
15 MS. HARRIS: Of your main report?
16 THE WITNESS: Correct. It's our main modeling
17 that we had done in November of 2012.
18 MS. ROSENFELD: So it's the, it's part of --
19 MS. CORDRY: It's in one of the appendices?
20 MS. ROSENFELD: -- of that.
21 MS. CORDRY: At some point, could we get
22 identified where in the --
23 MR. GOECKE: Yes.
24 THE WITNESS: It would be a separate disk that
25 we've given --

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1 MS. CORDRY: Okay. I mean, I have the appendices
2 disk. So I'm just --
3 THE WITNESS: Okay.
4 MS. CORDRY: -- if we could find where on that it
5 is, I --
6 THE WITNESS: That does define it. The two and a
7 half is a factor, although I'll call it a, a correction
8 factor for lack of a better word, of MOBILE6.2 idle, idle
9 emissions. That's the 2.5. The 40 is what we'll call, that
10 could be called the effective miles, taking into account the
11 2.5 factor. And what is this exhibit number? I should
12 refer --
13 MR. GROSSMAN: We haven't given it one, but we,
14 we'll give it Exhibit 176, will be this whole page that
15 you're working on now.
16 THE WITNESS: So I'm referring to Exhibit 176. So
17 we end up with 40 effective miles, 10 trucks, heavy-duty
18 trucks, four miles of travel, equivalent travel -- they're
19 obviously not moving -- and then it ends up being either 96
20 minutes, if you use MOBILE6, and two-and-a-half, correct, is
21 accurate, or ends up being 24 minutes if you use the 10x
22 scale-up with MOVES versus MOBILE6.2.
23 The bottom line, either way, it's substantially
24 higher than would expect to occur, and my judgment is that
25 that will substantially overstate, not understate, the total

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1 loading dock emissions from the entire mall.
2 MS. CORDRY: And just a last --
3 THE WITNESS: And we have modeling later on in
4 this, in my spreadsheet that shows an example of what other
5 loading docks do. So there are three key receptors we've
6 been modeling.
7 MR. GROSSMAN: Would you write on that Exhibit
8 176, please?
9 THE WITNESS: Yes, sir.
10 (Exhibit No. 176 was marked
11 for identification.)
12 MR. GROSSMAN: And that's called that written
13 worksheet explaining model of emissions from the Costco
14 warehouse loading dock. Is that a fair description of it?
15 MR. GOECKE: Yes.
16 THE WITNESS: Yes, sir.
17 MR. GROSSMAN: Okay.
18 MR. SHEVEIKO: Mr. Grossman, could we request --
19 MR. GROSSMAN: Yes, sir.
20 MR. SHEVEIKO: -- can Kensington take down the
21 Marc Elrich nameplate from, from the desk so -- because it's
22 in the line of a camera and I don't want the audience to
23 think that Mr. Sullivan is Mr. Elrich. I believe it just
24 slots out.
25 MR. GROSSMAN: All right, kind of like that.

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1 MR. SHEVEIKO: If I could do that, slip it out?
2 MR. GROSSMAN: I guess you could pull that out. I
3 think it's the next -- okay.
4 MR. SHEVEIKO: Well, you can keep Mr. Leventhal.
5 I --
6 MR. GROSSMAN: Okay. Well --
7 THE WITNESS: Who is that? Oh, Marc Elrich, yeah.
8 MR. GROSSMAN: All right.
9 MR. SHEVEIKO: Okay, great. Thank you.
10 THE WITNESS: Should we move on?
11 MR. GROSSMAN: We should.
12 MR. SHEVEIKO: Thank you.
13 MR. GROSSMAN: Thank you.
14 THE WITNESS: I also made some statements
15 regarding, because of the conservative nature of using EPA
16 background terms --
17 MR. GROSSMAN: Yes.
18 THE WITNESS: -- and I made a statement, I showed
19 a hypothetical example that there are approximately 3,000
20 eight-hour periods in three years, just take it as a
21 number --
22 MR. GROSSMAN: Okay.
23 THE WITNESS: -- and if we have two independent
24 sites, what are the odds that the peak eight-hour would
25 coincide between the two, and I, I said it's about 10 in a

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1 million that that, that would occur. I've embellished that
2 example a little bit more here. That number stands. We can
3 debate how independent each site is, and we can add some
4 more clarifiers if we choose to, but my point is that EPA's
5 procedure is extremely conservative, much more conservative
6 than if we would have tried to model every single source of
7 air pollution in the county and beyond. And the fact that
8 this is done for all of the 8116 receptors we're modeling,
9 we assumed that every one of them has its peak the same time
10 as the highest monitor has its peak, it's conservative.
11 And --
12 BY MR. GOECKE:
13 Q And what do you mean by that, you assume that it's
14 the, that the level is the highest of any monitoring peak?
15 A We -- and this applies to the acute exposures, not
16 for the annual, let's say; I should clarify -- it assumes
17 that the highest measured value at any of the three sites in
18 the region that we used --
19 Q And that's Beltsville, Arlington, or Rockville.
20 A Correct, the highest of those sites over three
21 years, the highest eight-hour average in this example, that
22 that value we're going to add to every modeled value we
23 have. So we're assuming that there's coincidence between
24 the maximum background value, as measured, and the maximum
25 value for that particular receptor. That's physically

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1 impossible to happen for all of those receptors. That's why
2 it's implicitly a conservative approach.
3 EPA does that because of the fact that it's
4 virtually impractical for them to require every factory,
5 every chemical plant, every power plant that's coming into a
6 region to do a study, to get three years' worth of measured
7 air quality data for their site. It's impractical. It
8 doesn't happen, really. It happens under extremely rare
9 conditions. So the situation is, that's an EPA standard
10 policy, is to do what we've done.
11 Q And when you took these peak levels, where did you
12 get the peak? Where did you get those numbers from, the
13 peak level numbers?
14 A EPA's database that shows the measured values. We
15 extracted data from EPA's Web site.
16 Q And so the EPA publishes the data collected at
17 Beltsville, Rockville, and Arlington, is that correct?
18 A That's correct.
19 Q And are those three locations EPA sites?
20 A They're accepted by EPA and reviewed by EPA.
21 They're sites -- the one in Arlington is maintained by the
22 Virginia Department of Environmental Quality, and the two in
23 Maryland are maintained and operated by the Maryland
24 Department of the Environment. So they're --
25 Q Are they --

1 A -- run by the states; they're submitted to EPA.
 2 Q Are the states required to submit that data to the
 3 EPA?
 4 A Yes, they are. So that's -- that procedure is
 5 standard procedure. When I've been talking about the
 6 loading docks and the parking lots and the various things
 7 here, I'm addressing questions that have been raised, but
 8 it's not standard practice on a modeling analysis to -- of
 9 this nature especially -- to be adding on parking lots and
 10 other loading docks for incremental gas station operation.
 11 I'm doing that for perspective.

12 The standard procedure is to model only the source
 13 in question and other nearby sources that'll create
 14 significant gradients in concentration. That's what EPA
 15 guidance calls for. We've done that plus more, and by this
 16 discussion today, I've just tried to clarify that our
 17 modeling, in spite of following EPA's procedures, has extra
 18 conservatism built in. Frankly, because there's been a lot
 19 of concern raised in the community, we tried to do the
 20 modeling in a way that would overstate rather than
 21 understate, again, to try to achieve consensus.

22 MR. GROSSMAN: Okay.

23 THE WITNESS: And, lastly, a point I want to
 24 clarify is that when we modeled gasoline delivery trucks --
 25 there's four of them on average per day that deliver

1 gasoline to the gas station -- these trucks are diesel
 2 trucks; they are unlike the gas station operations. There's
 3 no diesel vehicles going to the gas station, but there are
 4 four, on average, four diesel trucks per day, delivering
 5 gasoline. These are not normal diesels. These are called
 6 clean diesel technology. Clean diesel technology has
 7 substantially lower particulates, ultrafines, and what's
 8 called carbon, elemental carbon, which can be carriers of
 9 organic chemicals and other toxic chemicals. So it's
 10 nothing like a traditional diesel vehicle.

11 However, because of the fact that we did not feel
 12 we had good coverage with diesel emission rates throughout
 13 the range of speeds from, say, you know, from low speed up
 14 to 30 miles an hour traveled on University, we ended up
 15 using, for all the roadway emissions, for those four diesel
 16 trucks, the standard 2013 diesel fleet emission rates, the
 17 .1, you know, gram per mile. We are substantially
 18 overstating, not understating, the diesel emissions --
 19 another step that was taken to ensure that we did not
 20 understate any of the emissions affecting the community, the
 21 school, or the pool.

22 MR. GROSSMAN: I think somebody suggested that the
 23 air coming out of these clean diesel trucks was cleaner than
 24 the air going into these clean diesel trucks. Is that
 25 hyperbolic, or is that an accurate statement?

1 THE WITNESS: It, it, in my judgment, it can be
 2 accurate, and it depends on what the ambient air quality is
 3 in the city you're talking about, but these new diesel
 4 trucks, it's very different technology; plus they have very
 5 efficient filters built in. So it's certainly possible that
 6 the air coming out of the exhaust can be cleaner than the
 7 air going into the system, into the engine itself.

8 BY MR. GOECKE:

9 Q Do you know what the levels of particulate matter
 10 coming out of the clean diesel trucks is or are?

11 A Well, based on the information we've seen so far,
 12 I'm going to project -- and this can be clarified in the
 13 future -- we're modeling these emissions as .1 gram per
 14 second -- per mile, rather -- and it's most likely more like
 15 on the order of .04 based on the literature we've seen. So
 16 it's on the order of maybe two-and-a-half times less than
 17 what we're modeling, but the only time that we modeled
 18 diesels with that low .04 value was when we were confident
 19 they're going around two-and-a-half miles an hour and
 20 they're pulling into the entrance. So a very tiny amount of
 21 the travel we used that value, but to be safe, we used the
 22 high value for everything else.

23 So I want to make sure, when people are reviewing
 24 our model in general, they recognize that, you know, some of
 25 these steps are subtle but we've done our best to make sure

1 we don't underestimate these emissions. And I can state
 2 with great certainty that we're overstating, definitely not
 3 understating, the concentrations that will occur when this
 4 gas station is built.

5 MR. GROSSMAN: But I want to return to this
 6 question of the clean diesel trucks and the statement that
 7 yes, the air could be cleaner coming out than it is going
 8 in. Are you talking about all emissions, or are you just
 9 talking about particulate matter? What are you talking
 10 about?

11 THE WITNESS: I was talking about particulate
 12 matter that's filtered on the way out. The clean diesels do
 13 have lower emissions in general.

14 MR. GROSSMAN: Lower emissions than other diesel
 15 trucks?

16 THE WITNESS: Correct.

17 MR. GROSSMAN: But in terms of all emissions,
 18 you're not suggesting that all emissions from these clean
 19 diesel trucks is, are -- all the emissions are lower than
 20 the air going into the truck?

21 THE WITNESS: No, I'm not saying that at all, no.
 22 What I'm saying is that it's possible that the air coming,
 23 in certain environments, that the air coming out of the
 24 exhaust, because of the filtration system, could be less
 25 than the air going in.

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1 MR. GROSSMAN: Could be less, you mean would have
2 fewer particulate matter coming out --
3 THE WITNESS: Correct.
4 MR. GROSSMAN: -- not less emissions?
5 THE WITNESS: Fewer particulate matter coming out
6 than went into the intake of the engine.
7 MR. GROSSMAN: Right, but other than -- but other
8 emissions would be higher, is that correct?
9 THE WITNESS: Emissions --
10 MR. GROSSMAN: If you're asthmatic, you don't go
11 sucking on a truck's exhaust to cure yourself?
12 THE WITNESS: No, sir. That would be a bad idea.
13 There's many other, of course, chemicals in exhaust,
14 including some carbon monoxide --
15 MR. GROSSMAN: Right.
16 THE WITNESS: -- but what's been stated in the
17 peer-reviewed literature is that it's possible to have
18 cleaner air coming out of the, in terms of particulate
19 matter --
20 MR. GROSSMAN: Right.
21 THE WITNESS: -- than went into the engine in the
22 first place.
23 MR. GROSSMAN: Okay. I just wanted to make sure
24 we knew --
25 THE WITNESS: So that's just not my opinion but

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1 that's peer-reviewed science.
2 MR. GROSSMAN: Right. I just wanted to make sure
3 that we knew what was being said when that, when that figure
4 was bandied about.
5 THE WITNESS: Correct.
6 MR. GROSSMAN: Okay.
7 THE WITNESS: I'm not suggesting the air coming
8 out of a diesel, a clean diesel exhaust, is healthy to
9 breathe --
10 MR. GROSSMAN: Okay.
11 THE WITNESS: -- directly from the tailpipe.
12 MR. GROSSMAN: All right.
13 THE WITNESS: Well, that, that completes that,
14 that document.
15 BY MR. GOECKE:
16 Q Exhibit 175.
17 A Right.
18 Q That's right. And so let's turn back to your main
19 PowerPoint presentation now, which is Exhibit 174, and I
20 believe we left off at Slide 44.
21 A Okay. Starting with this slide, I wanted to
22 clarify that in doing risk assessment, that -- the standard
23 policy that the EPA has is that for residential exposures we
24 should assume a person lives there 24/7 for 70 years.
25 That's a safe, conservative way to address it. We know they

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1 go off sometime and go places but, to be safe, that's the
2 assumption, and we accept that assumption and did.
3 Q And is that your standard? Is that the EPA's
4 standard? Where do you get that protocol from?
5 A That's in the EPA guidelines. I don't, off the
6 top of my head, remember the exact guideline but that's been
7 EPA policy for many years; that for cancer risk assessment,
8 which I've done quite a bit for EPA, that we always assume a
9 70-year lifetime for residential exposures for toxic air
10 pollution studies. However, when you have a situation like
11 we're looking at here, where we have a swimming pool complex
12 and we have an elementary school, it's not EPA policy to
13 assume that people live their entire life at a swimming pool
14 or spend their entire life at school. That's not a
15 reasonable or plausible assumption.
16 So what we have done in our analysis when we show
17 the risk assessment, we show it both ways. So for the
18 school and the pool, we show what the risk would be if a
19 child did stay there 24/7 for their entire life, but then we
20 also show, well, what's the most time that a student could
21 be at school and what's the most time that anybody could be
22 at, reasonably expect to be at a swimming pool, and we made
23 assumptions that I'll describe here that -- let me see, I
24 went too far -- I'll make assumptions here that will, that I
25 think are very conservative, hard to say that anyone would

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1 be there longer, then end up reducing what's called the
2 occupancy factor, how much they could be expected to
3 plausibly be at that location. And when that adjustment is
4 made, as you'll see, the risks at the school and the pool go
5 down to extremely low levels, on the order of .003 in a
6 million at both the school and also the pool.
7 MR. GROSSMAN: Now, what factor did you use to
8 reduce the occupancy assumption?
9 THE WITNESS: I have a slide in here which I think
10 is going to come up next. I can come back to this other
11 slide. The assumptions that we made are listed in this
12 particular slide. So in terms of the school, we showed the
13 average life expectancy to be six hundred thirteen, two
14 hundred thousand hours, 70-year lifetime, and we're assuming
15 that the children go to school for 180 days a year, seven
16 hours a day for 18 years. That gives a total exposure of
17 22,680 hours spent at school. If you divide that value of
18 22680 by the lifetime, approximately 3.7 percent of their
19 lifetime would be at school.
20 Now, we can, other people can have different
21 assumptions, but it's hard, the 18 -- they can only go to
22 school basically for 18 years. I mean, that's a pretty
23 reasonable number, and school is a seven-hour-a-day
24 proposition, and the school year is 180 days, maybe give or
25 take a day or two, depending on the year. I'm saying that

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1 the number clearly is less than five percent. I believe
2 that 3.7 percent is a substantial overstatement, but it's
3 three percent approximately, 3.7 percent of a lifetime.
4 BY MR. GOECKE:
5 Q And that's if they were outside of the school or
6 inside the school?
7 A I'll argue that the -- we'll assume the air is,
8 the concentration is equivalent outside or inside, which is
9 implied in our calculations.
10 Q Is that in fact the case, or is that a
11 conservative assumption?
12 A It can go either way. I mean, the concentration
13 of toxics inside a building can be higher than the
14 concentrations outside.
15 Q But would that be because of the potential
16 emissions from the proposed Costco gas station, or would
17 that be because of the conditions that are inside the
18 school?
19 A No. It's because of the materials in the school
20 and the uses of, for example, water in the school. Water
21 has chlorine in it and creates chloroform. The high levels
22 of chloroform in most structures, especially a home -- when
23 you take a shower or wash your clothes in the dishwasher or
24 use your, I mean wash your clothes in the wash machine, use
25 your dishwasher, you're creating chloroform. Take a shower,

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1 you're creating chloroform. Take a shower at school, you'd
2 be creating chloroform. Carpets can have formaldehyde in
3 them. And so there's various -- air toxics can be quite a
4 bit higher inside a building than outside.
5 What I'm assuming is that the emissions of benzene
6 and formaldehyde from the gas station operations will be the
7 same outside and inside. I'm only accounting for the
8 contribution, incremental contribution, from the gas station
9 operations themselves. I'm not assuming any reduction as it
10 goes inside but to realize there's other sources of toxics
11 inside the structure that's completely independent of this
12 analysis that would be present.
13 Q Okay.
14 A So the occupancy factor for the pool -- similarly,
15 a same lifetime value. A pool is open typically 75 days per
16 year. We're assuming the child or the lifeguard, whoever
17 that may be, spends eight hours a day at the pool, they do
18 that for 18 years, they spend 10,800 hours, their lifetime,
19 at that pool. That's 1.8 percent occupancy.
20 I want to go back to this calculation I skipped.
21 Q Yes.
22 A This just provided some, some background on how
23 EPA uses risk assessment. When EPA does a risk assessment
24 -- and we've done risk assessments for EPA that have gone to
25 the Science Advisory Board -- is that EPA doesn't contend,

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1 if the risk is six in a million, for example, that they'd
2 expect to have six cases of cancer per million people. In
3 fact, I've published reports with the EPA that very
4 explicitly state that the risk could be a lot less than
5 shown, in fact, could be zero -- and I can, I can provide
6 the quote from EPA reports -- that it's a tool. In air
7 toxics analysis, we use risk assessment as a tool to manage
8 risk. You can manage risk on a relative basis in that
9 manner, but it should not be implied that if we say the risk
10 is one in a million, that it's actually one in a million.
11 Most of these cancer potency scores -- and in
12 order to get risk, you multiply your concentration by a
13 cancer potency score; a highly potent carcinogen has a
14 higher number, gives you more cancer bases -- you shouldn't
15 assume that that, the equivalent to expect a number of
16 cancer cases. So I think it's very important that that be
17 understood at the outset.
18 MR. GROSSMAN: What do the initials CARB stand for
19 that you have in all caps in the first line?
20 THE WITNESS: The California Air Resources Board.
21 That's the state air quality agency of California.
22 BY MR. GOECKE:
23 Q And why do you talk about the California Air
24 Resources board on this slide?
25 A California is the only state that I'm aware of

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1 that does have a regulatory structure that requires
2 notification if your cancer risk assessment calculations --
3 and that's incremental for the source in question -- exceed
4 10 in a million. They have a notification where you have to
5 notify the state that your new source is going to be above
6 10. If it's above 10, they would review the application to
7 determine if further mitigation is required to reduce
8 concentrations.
9 Q Have you ever worked on a project that has a level
10 of more than 10 in a million?
11 A I have.
12 Q And what types of projects do those involve?
13 A I worked in the, in Charleston, West Virginia, the
14 Kanawha Valley of West Virginia that has some of the biggest
15 chemical plants in the United States, and in one instance,
16 we found a cancer risk of one in 100 in residential
17 property, which was resolved by the project. That was, that
18 was solved, but I've seen it go as high as one in a 100.
19 Does that mean that one out of 100 people, if they lived
20 there, would contract cancer? It doesn't mean that. The
21 cancer potency scores tend to be upper-bound values. EPA
22 does the same thing that I'm saying we did here. They, you
23 want to err on the side of health and safety, of protection,
24 and EPA clearly does in these cancer risk assessment scores.
25 But for comparison purposes, EPA has done NATA --

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1 they're called NATA, which is a program EPA has -- where
2 they've modeled the Montgomery County area and much of the
3 rest of the country, and based upon modeling of a number of
4 pollutants, not everything that's here, but they came up
5 with an estimate of 65 in a million as a background risk for
6 this county. Recall that we're talking about risks from --
7 MR. GROSSMAN: Once again, identify what the units
8 mean. Sixty-five in a million is what?
9 THE WITNESS: That by the risk assessment
10 paradigm, 65 cases of cancer per million population.
11 MR. GROSSMAN: Okay.
12 BY MR. GOECKE:
13 Q So that's sort of the background expectation for
14 modeling purposes about what residents of Montgomery County
15 will develop cancer?
16 A Correct, and just to be, to be clear, that on
17 cancer risk assessment -- this is just showing background
18 for perspective -- cancer risk assessment, the way it's done
19 in California and the way it's done, you know, at EPA, all
20 the studies that I've done for EPA and others have done,
21 it's done on an incremental basis. So if we're looking at a
22 particular facility, let's say we're looking at a Union
23 Carbide plant in West Virginia, that we're looking at the
24 incremental risk from that facility. That's what's studied.
25 Now, it's also, EPA also has monitoring data in

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1 the area too, and I've added this. That's one of the
2 additions I put on here. This is from our report. Based on
3 monitoring of a select number of pollutants, EPA projected
4 70 to 370 cases per million. This is not for 2013. This is
5 an earlier time period and it's described in my report, but
6 my point is that the general background values are on the
7 order of, let's say, 50 to 400, somewhere in that range,
8 based on modeling or measurements -- doesn't mean you're
9 going to get cancer, but that's what the background values
10 are. So when we say the risk from the Costco at the closest
11 home is 0.5, it needs to be put in context with background
12 concentrations.
13 The bottom line is that based upon the applicable
14 urban modeling which applies to the three closest receptors,
15 that Costco operations are significantly below one in a
16 million cases, which EPA terms as de minimis, but again, in
17 clarification, EPA does not have a regulatory program that
18 has a standard for cancer risk assessment.
19 MR. GROSSMAN: Just so I understand what you're
20 saying about the projection for the gas station at the
21 nearest home, you're saying that that would be the
22 incremental increase; that is, 0.5 cases of cancer per
23 million at the nearest home would be the incremental
24 increase estimated for the gas station?
25 THE WITNESS: That's correct.

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1 BY MR. GOECKE:
2 Q Is it .5 or .05?
3 A It's .5-something, and we'll get to the slide, but
4 it's, I believe if you use the urban values and the, account
5 for the canister technology, that it's .5-something in a
6 million, and we'll bring the table up, but my point is it's
7 less, less, substantially less than one. That incremental
8 value is from the gas station operations. So it would be
9 the cars traveling along Georgia and University and Veirs
10 Mill and the ring road to get to the gas station, the idling
11 cars at the gas station, the delivery trucks, the minor
12 spills, the major spills, fueling operation emissions, and
13 vent emissions, and our risk assessment is based upon the
14 four carcinogens that are emitted by these operations where
15 EPA's I-R-I-S, IRIS database has cancer potency scores.
16 Q And so you said it's under -- it's well under one
17 in a million, it sounds like.
18 A Correct.
19 Q And the CARB standard for notification level is 10
20 in a million?
21 A They require notification at 10, and I can again
22 further clarify, we're doing modeling; we're saying, you
23 know, a risk of .5, I guess .57, but it's .5-something in a
24 million. That's looking at primarily 2013. There's going
25 to be steps taken over a 70-year lifetime, from that point

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1 onward, that'll further reduce the emission of volatile
2 organics. As the cancer technology takes place and the
3 Stage II is removed, as I mentioned before, VOCs will drop.
4 President Obama has an initiative for 2017 to try to have
5 further, 40 percent reduction of VOCs from mobile sources.
6 These steps will all act to further reduce the carcinogens
7 we're talking about in this analysis well beyond the
8 modeling I'm showing here.
9 So when I say around .5 in a million, that's based
10 -- that doesn't take into account the things that are in the
11 pipeline that are going to further reduce those risks. And
12 important to keep in mind that cancer risk assessment is a
13 70-year composite assessment. It's not for like the next
14 year or just 2013. It's for the 70-year period of time.
15 MR. GROSSMAN: Did you do any, any modeling for
16 what portion of that additional risk results from the
17 operation of the gas station itself as opposed to traffic
18 coming to it?
19 THE WITNESS: We could, we can -- our tables show
20 the results as a function of source category. So we could
21 tease that out of the results, and it can be shown in a
22 particular -- in our report of November of 2012. I don't
23 remember the exhibit number for that but that report does
24 show that value.
25 MR. GROSSMAN: The reason I asked that question is

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1 presumably, if there was some other pad use put there that
2 would attract an equivalent number of cars to it --
3 THE WITNESS: Correct.
4 MR. GROSSMAN: -- those would kind of cancel out.
5 So the question I'd have is comparing this potential use to
6 other potential uses in terms of the incremental cancer risk
7 from the use.
8 THE WITNESS: We can certainly tease out those
9 values and provide that.
10 MR. GROSSMAN: Because I know you had a comparison
11 of fast-food stores in terms of particulate matters. I'm
12 not sure if they also covered potentially other forms of
13 carcinogens.
14 THE WITNESS: Can you repeat that question? I'm
15 sorry.
16 MR. GROSSMAN: You've made a comparison in one of
17 your papers that you filed in this case between the increase
18 in particulate matter anticipated from cooking a
19 hamburger --
20 THE WITNESS: Uh-huh.
21 MR. GROSSMAN: -- in a, in a fast-food joint
22 compared to running a diesel truck --
23 THE WITNESS: Right.
24 MR. GROSSMAN: -- and I don't know if you've made
25 a similar kind of comparison to other potential uses for the

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1 production of other forms of pollutants, not just
2 particulate matter.
3 THE WITNESS: We haven't, but we certainly can,
4 because it depends what use were to go into that facility.
5 For example, we described earlier that there was a
6 Montgomery Ward service station there. Well, a service
7 station uses solvents, and solvents, called, you know,
8 degreasers, are typically a focus of air toxics assessments.
9 So they can have fairly toxic material used there, and for
10 example, how, what would be the difference between a gas
11 station compared to a service station, a gas station as
12 Costco is going to operate, and that comparison could be
13 made, but I do know from my past work that degreasing
14 operations, depending upon the solvents they're using, can
15 be quite, quite high in terms of risk.
16 MR. GROSSMAN: All right.
17 BY MR. GOECKE:
18 Q Can you provide us any comparison? So the risk
19 from the gas station functioning at the site, what would
20 that be comparable to? Would it be comparable to a
21 fast-food location or --
22 A No. A fast-food location, in terms of
23 particulates, would be substantially higher. I mean, I
24 showed from the fast-food analysis that it'd be about 60
25 times higher than the gas queue, for example. You know, we

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1 talked a lot about gas queues, I mean, we've talked about
2 this for two years now, but you know, the situation is yes.
3 I mean, if you look at the study done by the University of
4 California-Riverside in conjunction with the California Air
5 Resources Board, the study with the hamburgers, I mean, they
6 show, you know, five grams of emissions per charbroiled
7 hamburger on control. Five grams, that's a lot compared to
8 what we're talking about here. I mean, the gas queue in the
9 course of a day is producing, you know, 60 times less
10 emissions of particulate matter, fine particulate matter,
11 than a typical fast-food restaurant, and we're saying that
12 using the average McDonald's as our template, and we're
13 assuming that if it's charbroiled hamburgers, which emit a
14 lot more than griddled hamburgers, that they have controls.
15 We don't know for a fact that they do. We're assuming they
16 have controls, 85 percent controls per that study that I
17 referenced, and if you use those controls, you find that
18 even at that level, it's 60 to one.
19 And so when we talk about mass comparisons, I
20 brought my bottle of water here, and I think I have
21 something else sitting right -- sometimes a visual can tell
22 us stories better than I can with words. If I take a
23 tablespoon measure and I compare it, I make a comparison
24 here -- and unfortunately, do I have a tablespoon? This is
25 a half tablespoon. Double this. A liter of water weighs

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1 2.2 pounds. This is about how much particulate matter is
2 emitted by a fast-food restaurant. Costco --
3 MR. GROSSMAN: In what period of time?
4 THE WITNESS: The course of a day.
5 MR. GROSSMAN: Okay.
6 THE WITNESS: And Costco would emit to about a
7 tablespoon in terms of mass, as a rough comparison. So, you
8 know, I'm not, I'm not suggesting that fast-food restaurants
9 are dangerous. I'm not saying that. I'm saying on a
10 comparative basis, fast-food restaurants, this kind of mass;
11 Costco queue, two of these. And so --
12 MR. GROSSMAN: Is the particulate matter of the
13 same nature that's produced?
14 THE WITNESS: It's similar in the sense that they
15 both emit quite a, quite, you know, the fast-food emits
16 quite a lot of ultrafine particles that Dr. Cole and I both
17 have talked about a bit. Fast-food also emits carcinogens.
18 So in those ultrafine particles, as have been reported in
19 the literature, there are also organic chemicals in there
20 that are carcinogenic.
21 So we can't assume because it's food, that it's
22 benign, and that's the reason why in California, especially,
23 they've been aggressively going after better controls on
24 fast-food restaurants. In Maryland, we made contact with
25 the Maryland Department of the Environment, and their

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1 requirement is on opacity basis, you know, can you see
2 visible smoke coming out, and if they're violating the
3 opacity regulations, they most likely have to go to
4 controls. But we don't know the control status, of course,
5 of all these, these fast-food restaurants near Wheaton, but
6 what we can say is, you know, in a typical day it's one
7 of these emitted by one --

8 MR. GROSSMAN: One of these, holding up a liter
9 bottle.

10 THE WITNESS: One liter of water, 2.2 pounds
11 approximately, we know there's over 50 fast-food restaurants
12 in the vicinity of the Wheaton area, I show that in my
13 report, so if we do the math, 3,000 to one, and I could add
14 that fast-food restaurants are permitted quite regularly
15 throughout the county and the United States. Costco emits
16 quite a bit less particulate matter.

17 BY MR. GOECKE:

18 Q And so the cancer risk would also be lower for the
19 Costco gas station than for a generic fast-food restaurant?

20 A Yes. I mean, I haven't run the numbers, but I
21 certainly would expect that would be the case.

22 Q And the .5-in-a-million number that you came up
23 with, is that number higher because of the conservative
24 approach you took to your modeling?

25 A Oh, yes. Yes, it is.

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1 Q So you actually expect that number to be lower?

2 A I've done calculations. If I were to assume, for
3 example, that -- if I were to assume that the cancer
4 technology on cars was fully kicked in, three or four years,
5 and the penalty now of having two systems -- the Stage II
6 and the canisters -- kind of conflicting, that I would
7 reduce my cancer risk by about 40 percent; if President
8 Obama's initiative to reduce tailpipe exhaust or VOCs by 40
9 percent is successful, that'll be another 40 percent, we'd
10 be down, most likely, even on that, down to near the
11 .2-to-million range, and again, it's a 70-year calculation.

12 MR. GROSSMAN: I don't think we can count on that.

13 THE WITNESS: No, I think you're right on that
14 part. It's a proposal. Well, you can count on the fact
15 that the canisters will be coming into effect because the
16 cars, they don't make them without the canisters any longer.
17 So that'll happen. So you take the 40 percent, multiply it
18 .4 times, even, you know, .6; you're taking off about .25.
19 We're down to the .2 to .3 range in a million once the
20 canister technology kicks in, which will be well before 70
21 years down the road.

22 BY MR. GOECKE:

23 Q Okay. Let's move along to a slide. I believe you
24 already covered 46. We're on 47 now.

25 A Okay. This particular slide is showing the cancer

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1 risk assessment at Slide No. 47, and this is without
2 considering the reduction for canister controls. I want to
3 clarify, the reason in our report why we show what we call
4 VOCs and then VOC 2 is, in our protocol we developed with
5 Dr. Cole, we didn't, we didn't refine the canister emission
6 rates.

7 Q And tell us again what a canister control is.

8 A Charcoal canisters are required in cars I believe
9 from 2006 or so onward that are designed to capture the
10 fumes, the gasoline vapors, when you fuel.

11 MR. GROSSMAN: This is an internal canister within
12 the car?

13 THE WITNESS: Correct. It's on an on-board
14 system.

15 MR. GROSSMAN: And how large is that canister, by
16 the way?

17 THE WITNESS: I've never seen one.

18 MR. GROSSMAN: All right.

19 THE WITNESS: My car is 2003. So we didn't -- I
20 don't have one on my car.

21 MR. GROSSMAN: So it's something, presumably,
22 that's quite close to the intake for gasoline?

23 THE WITNESS: I really don't know where it is in
24 the car --

25 MR. GROSSMAN: Okay.

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1 THE WITNESS: -- and it's a, I expect it's a
2 charcoal system that will absorb those vapors. Most likely
3 it has to be replaced from time to time as maintenance on
4 that vehicle, and it's designed to very effectively reduce
5 gasoline marketing-related emissions. That's what --

6 MR. GROSSMAN: Okay.

7 THE WITNESS: -- it's designed to do, but we show
8 the results both ways in fairness to Dr. Cole because we did
9 not refine and put the canisters in initially. So we show
10 it both ways. So when you see VOC 2, that's with the
11 canister technology I included.

12 This is without that step. This is the more
13 conservative analysis, and again, Slide 47 is showing
14 incremental, incremental risks. And I'm showing that the
15 total modeled values of VOCs, volatile organic carbon, I'm
16 showing the risks in a million based upon the 2013 fleet.
17 I'm looking at the, one, two, three, fourth row that's --

18 MR. GROSSMAN: Once again, this is cancer risks?

19 THE WITNESS: Correct.

20 MR. GROSSMAN: Okay.

21 THE WITNESS: This is all cancer risk. Look at
22 the row that says risk per million, and here I'm showing --
23 and this is based upon urban dispersion coefficients -- I'm
24 showing 0.84 for the home, 0.09 for the school, and 0.19 for
25 the pool. I'm, I also show the 70-year concentrations of

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1 VOCs.
2 BY MR. GOECKE:
3 Q And that's based on 100 percent occupancy
4 modeling?
5 A Correct. And the line that says 70-year risk per
6 million for projected fleet, this is where we say, well, we
7 know the 2013 fleet is not going to be driving around for
8 the next 70 years, and if we look at MOBILE6.2, we could get
9 emission factors for cars going to the year 2035. So in
10 this calculation we used an average fleet mix, and you know,
11 it reduced the risk a little bit, from .84 to .77.
12 And, finally, we took into account the occupancy
13 factors that are described in the previous, several slides
14 ago, and the home, of course, stays the same at .77, but if
15 we apply the occupancy factor, applied to the school and
16 also the pool, they coincidentally come up with the same
17 risk number: .003 in a million, which is a very small risk.
18 So that's based upon the more conservative approach, not
19 taking credit for the fact that the cars have canister
20 technology.
21 Q So, now you said .003. How does that compare to
22 the .5 that you were talking about a moment ago? Why is
23 this number so much lower?
24 A Well, let me get to the .5. It's the, I was
25 talking about the, the urban -- this is the urban value with

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1 the canister technology. This is the 0.59 value.
2 Q So that's at the home?
3 A That's at the closest home, and again, people will
4 be at their home. A person that was an invalid could be at
5 their home quite a few number of years without going out.
6 They could be -- you know, 70 years may be pushing it, but
7 we're assuming 70 years, 24/7 they never leave their
8 property. That stays. So 0.59 is the assessment we're
9 making for the 2013 analysis we did here, but with the
10 canister technology, the school and the pool are further
11 reduced from .003 to .002. And we call that canister
12 technology Scenario 2, and I'm on Slide 48 right now.
13 Q Thank you.
14 A So it's just two different ways of looking at the
15 same analysis. The second way is more accurate in terms of
16 accounting for canister technology controls on gasoline
17 marketing operations.
18 Q Now, the next portion of your presentation deals
19 with some of the criticisms that have been levied by members
20 of the opposition.
21 A Correct.
22 Q And we're on Slide 49, going to Slide 50 now.
23 A Okay. So in -- and I'm trying to be, in fairness,
24 you know, actually describe their positions. If I haven't
25 done so, I'm sure they'll let me know later on.

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1 MR. GROSSMAN: Let me stop you for one second
2 before you get into that. Earlier on slide 45 you also had
3 the projection of a risk of less than one in a million. Is
4 that also from the volatile organic compounds, or is that
5 from something else?
6 THE WITNESS: This is from the volatile organic
7 chemicals.
8 MR. GROSSMAN: So all of these cancer risk
9 assessments were pertaining to volatile organic compounds --
10 THE WITNESS: Correct.
11 MR. GROSSMAN: -- not to particulate matter?
12 THE WITNESS: That's correct.
13 MR. GROSSMAN: Okay. Is there a factor to be
14 included for the particulate matter in terms of cancer risk,
15 or is that not known?
16 THE WITNESS: Well, in this case here especially,
17 the fact they're not, they're not using diesel, there's no
18 diesel fueling going on at this gas station, and the fact
19 that they're using clean technology diesel vehicles, that
20 the particulate risks are so small that it would not be
21 necessary or appropriate, in my view, to do a cancer risk
22 assessment. It would be very, very small. The old
23 technology diesels, of course, did have a concern for
24 cancer. That's why they made them convert to new technology
25 diesels, but the -- at this point in time, to the best of my

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1 knowledge, there isn't even a cancer potency score for
2 diesel, new diesel technology particulate emissions.
3 MR. GROSSMAN: Okay.
4 THE WITNESS: So the topics we're going to discuss
5 here will be the following: ultrafine particulates, risks
6 at the school and the pool, long-term monitoring programs
7 for air quality/meteorology, more broadly modeling the
8 sources in the mall area beyond what's required by the EPA
9 standard background treatments --
10 BY MR. GOECKE:
11 Q Yes.
12 A -- allegations that terrain complications could
13 end up producing higher concentrations in Kensington Heights
14 than the modeling is showing and, finally, addressing the
15 issues of school-siting criteria guidance as produced by the
16 California Air Resources Board and EPA.
17 First of all, in terms of ultrafine particles, I
18 think it's important to keep perspective. You know, there's
19 no question that ultrafine particles are not good for you.
20 We agree with that. It's not good for asthmatics to breathe
21 high quantities of ultrafine particles or particles in
22 general. We agree with that, but the issue in all these
23 discussions really boils down to dose. Anything could be
24 dangerous at a high enough dose, and pretty much anything is
25 not dangerous at a low enough dose. Dose matters. So if

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1 we're -- we need to separate and make sure we do parse this
2 out because if we're just going to talk about how bad
3 ultrafine particles are without providing context on dose,
4 we're not really providing to the decision maker, you know,
5 balanced information.
6 The reality is that based upon the modeling of all
7 the incremental Costco sources, we modeled at the maximum
8 location .005 micrograms. We shouldn't have even, we
9 shouldn't have even modeled particulates for this project.
10 In fact, we didn't in the beginning, and Parks and Planning,
11 now looking back on it, quite appropriately, said you better
12 model the fine, the particulates. We've done --
13 Q Why do you say it was quite appropriate for them
14 to suggest that?
15 A Because it's come up as a subject. They
16 recognized that. It was a very good point, but we've done,
17 I estimated before, probably 20 traffic studies in the D.C.
18 area. We've never analyzed particulates in those studies,
19 not one of them, and they've been accepted by the D.C.
20 government every single time because the limiting factor is
21 carbon monoxide. And so we knew going into this project
22 that the particulates from cars in 2013 technology is so low
23 that there's no reason to be worried about any standard, but
24 here we are, we've modeled it. We have .005.
25 I do agree with Dr. Cole that the MOVES model --

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1 MR. GROSSMAN: Well, hold on one second before you
2 get to the second point. I noticed that your heading says
3 ultrafine particles but that first bullet point says fine
4 particles.
5 THE WITNESS: Correct.
6 MR. GROSSMAN: Are you telling me that you're
7 modeling fine particles or ultrafine particles?
8 THE WITNESS: We're modeling the class of
9 particles called PM 2.5, which are all particles less than
10 2.5 microns. So ultrafines start at .1 microns. So we are
11 modeling ultrafines plus particles larger than ultrafines
12 and less than 2.5 microns.
13 BY MR. GOECKE:
14 Q So what's the difference between a fine
15 particulate and an ultrafine particulate?
16 A Its size. I mean, the ultrafine particles are
17 much smaller particles, very tiny particles. As Dr. Cole
18 has pointed out, the particle counts with them can be much
19 higher. I totally agree with that statement. The issue, my
20 point here on this first bullet point is, if the fine
21 particulate fraction is .005, the ultrafine fraction is
22 going to be a lot smaller than that.
23 Q Why is that?
24 A Well, it's a subset of it. It's a subset of it.
25 And so that if the background, for example, in this area is

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1 10 and we're at .005, we know that the background ultrafine
2 particle levels, especially near highways or fast-food
3 restaurants, are going to be enormously higher than what
4 we're going to have in this .005. So my point, yes, it's
5 apples and oranges, as you appropriately pointed out, but
6 it's a subset. Ultrafines is a subset. If you start with a
7 very small number, the subset is going to be even smaller.
8 MR. GROSSMAN: Well, you defined it as a subset.
9 I'm just wondering in terms of your measurement process
10 whether it's in fact a subset or -- you just said a moment
11 ago that you agree that there's a higher amount of ultrafine
12 particulate than fine particulates. I don't understand how
13 those two sentences jive.
14 THE WITNESS: Well, basically, we agree. Dr. Cole
15 is absolutely correct that the MOBILE6.2, which is a
16 computer program that estimates emission rates from mobile
17 sources, it was tending to understate the fine particulate
18 emission rates in general. Now, the guidance from that
19 model says to scale up, for example, low speeds by a factor
20 of 2.5, which partially compensates, but the new model,
21 MOVES, shows on the order of tenfold increase at idle. So
22 that's where this next slide, if I take my idling emissions
23 and the effect that those have and instead of scaling up by
24 2.5, I scale up by 10, if I do that, my overall
25 concentrations at the maximum home increase from .005 to

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1 .01.
2 MR. GROSSMAN: Well, that's not true, not if
3 you're -- not if it's a factor of 10.
4 THE WITNESS: Well --
5 MR. GROSSMAN: It should be .05, not .01, right?
6 THE WITNESS: No. That would be true if, if the
7 queuing emissions were as large as the other emissions. I
8 could show on the flip chart the math to go from .005 to .01
9 if that would be helpful.
10 MR. GROSSMAN: All right.
11 THE WITNESS: And I can back this up, if
12 necessary, with the documentation. I know it's difficult to
13 track flip chart calculations, but let me, let me put that
14 in perspective.
15 MR. GROSSMAN: And, Mr. Goecke, would you make
16 sure that when we finish for the day, that that exhibit
17 marked 176 gets into our --
18 MR. GOECKE: Collection?
19 MR. GROSSMAN: -- pile of exhibits? Thank you.
20 MR. GOECKE: Sure.
21 MS. ROSENFELD: And will this be a new exhibit?
22 MR. GROSSMAN: Well, we haven't made it an exhibit
23 yet, but let's see if it's, if you think it's worthy of
24 being exhibitized.
25 THE WITNESS: So if you look at the, as we call

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1 it, culpability tables when we show by source category what
2 the contribution is for the closest home and the school and
3 the pool, if you look at the culpability, you find that
4 one-third of the impacts are from queues; two-thirds are
5 from the gas delivery trucks, the roadways, and the entrance
6 and the exits to the gas station. This is for, I'm talking
7 about particulate matter. So, basically, you think of it
8 this way: one part queues plus two parts other. That
9 equals three, okay?

10 MR. GROSSMAN: Right.

11 THE WITNESS: So what we've done basically in our
12 analysis, we take our one -- and we agree with Dr. Cole that
13 MOVES has higher idle emissions; I expect that MOBILE6, they
14 must have missed some of the fine fraction in their
15 monitoring program -- so we say we agree, let's multiply it
16 times 10. Now, we already have incorporated the MOBILE6
17 factor of 2.5. That's already in our numbers. So, you
18 know, we've already, we've scaled up by a factor of 2.5. It
19 should have been four times more than that, according to
20 MOVES.

21 BY MR. GOECKE:

22 Q But again, you say you're scaling up by 2.5, but
23 you're dividing it by 2.5.

24 A This is already in our modeling. We've already
25 increased our emissions 2.5-fold. Dr. Cole suggested more

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1 like tenfold. We agree with him. So 2.5 times four is 10.
2 We're matching his number. Effectively, I'm increasing my
3 numbers by four times right here.

4 MR. GROSSMAN: Okay.

5 THE WITNESS: Then I have my two over here. If
6 you work out the, if you work out the math, that goes to now
7 four. So I have, you know, four plus the two. I have six.
8 I had three before. So it's the waiting factor and the fact
9 we already had a scaler in there for two and a half already.
10 Those two factors combine to end up, if I have a .005 at the
11 closest home, that now becomes 0.01.

12 BY MR. GOECKE:

13 Q And why does the two in both equations remain the
14 same?

15 A Because the, in this context here, the issue with,
16 between MOBILE6 and MOVES, but they're primarily at low
17 speeds, and at high speeds the models are much more similar,
18 and we could refine this analysis, and maybe before this
19 process is done, we will, but the issue is, gas delivery
20 trucks, we know we overstated those. We already discussed
21 that. The roads and the exits, we know we're overstating
22 the roads. The ring road is overstated by -- we're using
23 peak values all the time. So if we want to refine things,
24 it's probably less than this. We probably would scale up to
25 something less than .01. I'm simplifying the calculations.

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1 There's a lot of conservatism built into this two-third
2 step. And what exhibit number should I write on here, or is
3 that something that needs to be done?

4 MR. GROSSMAN: Do we need this as an exhibit, this
5 explanation?

6 (No audible response.)

7 MR. GROSSMAN: Okay. This will be 177. And while
8 you're at it, show me the math. I still don't see the math
9 that got you from .005 to .01. You say it yields it
10 somehow. How does that six that you came out with move you
11 from .005 to .01?

12 (Exhibit No. 177 was marked
13 for identification.)

14 THE WITNESS: I started with -- I simplified this,
15 this math here to say one plus two is three.

16 MR. GROSSMAN: I understood, and I understood you
17 down to where you got to the six. Now explain how you get
18 from .005 to .01.

19 THE WITNESS: Six divided by three is a twofold
20 scale-up --

21 MR. GROSSMAN: I see. So that's --

22 THE WITNESS: -- and two times .005 is 0.01.

23 MR. GROSSMAN: I see. So what you're saying is
24 you've increased it by a factor of two for this and that's
25 why -- okay. I understand that now.

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1 THE WITNESS: Correct.

2 MR. GROSSMAN: All right.

3 THE WITNESS: And, you know, our goal -- and we
4 tried quite hard, as I mentioned before -- was to run MOVES.
5 We're still trying to get the data to run MOVES, not
6 necessarily for this project, but we do traffic studies.
7 The guidance hopefully will come out this summer, but it's
8 not here now, and so we're using literature to make this
9 scale up. This could be refined, but as a ballpark number,
10 this is probably pretty, pretty reasonable.

11 BY MR. GOECKE:

12 Q But whether --

13 MR. GROSSMAN: Okay. So how will we describe this
14 exhibit? Written worksheet explaining how --

15 THE WITNESS: How the MOVES -- scaling up for the
16 expected MOVES particulate emissions as compared to
17 MOBILE6.2.

18 MR. GROSSMAN: Okay. How --

19 MS. ROSENFELD: The second bullet on page 51 of
20 the PowerPoint --

21 MR. GOECKE: Slide 51.

22 MR. GROSSMAN: -- MOVES --

23 MS. ROSENFELD: -- that's what you were, you were
24 explaining, right?

25 MR. GROSSMAN: Hold on one second. How MOVES

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1 model scales up fine particulate matter from 0.05 micrograms
2 per cubic meter to 0.01 micrograms per cubic meter, but I'm
3 sure my administrative staff is going to ask where does she
4 find a mu on the keyboard.
5 THE WITNESS: You can find it in Word. You go to
6 symbols; it pops up.
7 MR. GROSSMAN: Okay. It's in symbols?
8 THE WITNESS: You have to get your Greek going and
9 it's there.
10 MR. GROSSMAN: Okay. All right.
11 BY MR. GOECKE:
12 Q So the bottom line is whether to use MOBILE6 or
13 MOVES. Would using MOVES change your ultimate conclusion
14 here?
15 A Not at all.
16 Q And what is your ultimate conclusion about the
17 potential dangers from particulate matter?
18 A This gas station is creating no significant
19 impacts for particulate matter at all. The concentrations
20 are so low relative to the background and other sources that
21 it's really not an issue.
22 Q Okay. And let's talk about background levels a
23 little bit. I see on Bullet Point 3 you talk about the
24 standard for background levels of fine particulates. Tell
25 us a bit about that.

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1 A The background levels are relative to the
2 standard, you asked? I'm sorry.
3 Q Yes.
4 A The standard was changed late 2012 from, the
5 annual standard, from 15 micrograms per cubic meter to 12.
6 The background that we have calculated -- and this, we've
7 documented this in substantial detail -- by 2013 is 10.8.
8 That's in agreement with the Washington Council of
9 Governments. That's in agreement with the data, using the
10 more conservative of the three stations that are in this
11 area.
12 My point is, by 2014, when this station opens, the
13 trend lines certainly suggest that the background
14 concentrations should be on the order of 10 micrograms or
15 less. That's what the trend lines show. The standard is
16 12.
17 Q And based on what trend lines?
18 A Based on the trend lines from Rockville,
19 Beltsville, and Arlington, PM 10 -- PM 2.5, I'm sorry,
20 concentrations. So it's relatively close. I mean, the
21 background on fine particulate matter is higher than the,
22 relative to standard, as compared to, say, carbon monoxide
23 or nitrogen oxide. That's true. However, this particulate
24 gas station is, as I'm showing above, is contributing at the
25 maximum location 0.01.

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1 Now, when EPA defines a standard, develops a
2 standard -- in this case, 12 -- that standard is not
3 developed so that at 12.01 or 13, you know, you're going to
4 have health problems as defined by the Clean Air Act. What
5 it's saying is that the 12 has a built-in margin of safety
6 to protect the most sensitive members of society with a
7 reasonable margin of safety. It's the U.S. EPA's
8 administrator's job to make that judgment and that judgment
9 is made in consultation with the Clean Air Act Science
10 Advisory Committee, CASAC.
11 So they're a standing committee, part of the
12 Science Advisory Board process at EPA that provides ranges
13 to the EPA administrator based upon their review of the
14 literature. And from that range the administrator has the
15 sole authority to make the judgment of we're in the net
16 range or outside that range that he or she chooses to
17 regulate from, balancing the fact that some of these --
18 sometimes in the CASAC analysis they will have projections;
19 they'll extrapolate down to very low concentrations in the
20 case of, say, particulates, and there may, there may be a
21 lot of uncertainty down there, and they also, they have
22 risks that are quite trivial down there. It's up to the
23 administrator to balance off the evidence-based analysis and
24 the risk analysis, weighing uncertainty and severity of the
25 impact to determine is this risk, does it rise to the level

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1 of protection under the Clean Air Act or not. And I'll
2 leave it up to the medical folks to talk in more detail
3 about that, but this process is a weighing job by the EPA
4 administrator based upon input from the CASAC committee and
5 from a tremendous amount of public input by industry,
6 environmental groups, and the general public.
7 So after this extensive process, EPA retained the
8 24-hour standard at 35 micrograms per cubic meter but made
9 the determination that the 15 micrograms per cubic meter was
10 too high, it was not sufficiently protective, and they
11 dropped the standard down to 12. So when we're saying --
12 Q Is it fair, Mr. Sullivan, is it fair to say that
13 if you're below the 12 standard, that there's no adverse
14 health effects?
15 A Well, I think it depends how you define adverse
16 health effect, frankly. I mean, for example, let's say that
17 asthmatics would -- and I'm talking not as an expert in
18 medical but just an example -- let's say an asthmatic would
19 have a .1 percent decrease in lung volume, and I'll let
20 Dr. Chase later get into that in greater detail, but is that
21 significant? Is a .1 percent reduction in lung volume, does
22 that rise to the level of the administrator saying, well,
23 we're going to have to control it -- because that's, that
24 could happen, and it's pretty uncertain, it's very uncertain
25 down, projecting that far -- but should we have to lower the

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1 standard to the point that we can protect that? The Clean
2 Air Act doesn't say what adverse level the administrator has
3 to protect to. That's a judgment call.
4 So it's hard to say. Is that an adverse effect?
5 Well, the administrator makes that determination, but my, my
6 argument is, if it's less than 12, it's meeting the EPA
7 standards that are designed to be protective of public
8 health and welfare with an adequate margin of safety.
9 That's the only benchmark we have.
10 MR. GROSSMAN: What would the total measure be
11 under your model, including background and the Costco gas
12 station?
13 THE WITNESS: Ten point eight one at the closest
14 home.
15 MR. GROSSMAN: Okay. I'm not sure that I heard an
16 answer yet to my question about the ultrafine particulate
17 matter versus fine. You said definitionally it's a subset
18 of the PM 2.5 measurement --
19 THE WITNESS: Uh-huh.
20 MR. GROSSMAN: -- but in terms of actuality, is it
21 measured? You know, how is it measured versus the fine
22 particles?
23 THE WITNESS: They, they have different monitoring
24 equipment to do the ultrafine, and there are studies, of
25 course, that have been done near, near highways and other

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1 locations where they measure particle counts for ultrafines,
2 as well as mass with ultrafines -- a totally different
3 technology. If your question is can I estimate what
4 fraction of this .01 would be ultrafines, it certainly is
5 possible to make a rough estimate of that. I can't off the
6 top of my head. I'd have to do some research.
7 MR. GROSSMAN: Well, I guess my question was, went
8 even further than that, is, is it actually a fraction of the
9 .01 or is it something else entirely and maybe there are
10 more parts per million per cubic meter than would be
11 indicated by the .01 if you're talking about ultrafine
12 particles? That's my question.
13 THE WITNESS: I think, if I understand your
14 question --
15 MR. GROSSMAN: You're talking about parts; in
16 other words, I guess you're talking micrograms. So you're
17 talking a portion of a weight, but I guess in terms of
18 number of particles, you would have presumably a higher
19 number of ultrafine particles, and does that difference in
20 the number make a difference in terms of potential effects?
21 THE WITNESS: Well, there's certainly people that
22 believe that it will, and there's others, if you look at the
23 literature, that says the jury is still out on that. The
24 reality is EPA has not made the call on ultrafines. They're
25 studying it right now, but you know, will they -- if they do

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1 regulate it, will they regulate it by counts, by mass? What
2 will the standard be? That's not known at this point in
3 time.
4 MR. GROSSMAN: See, I just don't want us to be
5 confused about the question of whether or not -- when you
6 said it's a subset of the .01 micrograms per cubic meter,
7 it's a subset in terms of weight but not in terms of numbers
8 or particles, is that correct?
9 THE WITNESS: That's what I -- yeah, absolutely
10 correct. I'm referring to weight when I made that
11 statement. The particle counts can be evaluated, and I do
12 have some slides that, you know, that get into particle
13 counts to some extent, and we can get to those soon. And as
14 I show later, I mean, the particle counts inside a home from
15 various activities are quite a bit higher than particle
16 counts near a freeway. I showed references, peer-reviewed
17 references that support that, that statement.
18 MR. GROSSMAN: And that statement, you're
19 referring to particle counts by number or particle counts by
20 weight?
21 THE WITNESS: By number.
22 MR. GROSSMAN: Okay. And so it's your statement
23 that at this point there are no agreed-upon conclusions
24 regarding the impacts of the number of ultrafine particles
25 versus fine particles?

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1 THE WITNESS: There is no, let me put it this way,
2 there is no EPA position at this point in time in terms of
3 regulating ultrafine particles that I can find anywhere in
4 the literature.
5 MR. GROSSMAN: All right. But that's not really
6 responsive to my question, and I take that as some, a piece
7 of information, but in terms of, in terms of impacts of the
8 number of ultrafine particles, is there any consensus as to
9 the health impacts in terms of numbers of ultrafine
10 particles?
11 MR. SILVERMAN: Can I object to -- the question is
12 excellent, but I'm not sure Mr. Sullivan is qualified to
13 answer it.
14 MR. GROSSMAN: Well, he may or may not be, and I
15 take that as a fair observation, and I'll qualify the weight
16 I give his answer by that objection.
17 THE WITNESS: The honest answer, I don't know the
18 answer to your question in terms of ultimately how, how
19 they'll regulate and on what basis they regulate and what --
20 MR. GROSSMAN: I'm not talking about regulation.
21 I'm talking about impacts. I understand -- and I think it's
22 significant that it's not regulated if that's what you're
23 stating --
24 THE WITNESS: It is.
25 MR. GROSSMAN: -- but I don't know that that's the

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1 only question that I would consider. It may be. I'm not
2 sure yet where I go on that as a legal matter but just
3 wanted to know also in reference to the impacts of it, in
4 terms of health, whether you know if there is any consensus
5 regarding impacts in terms of numbers or ultrafine
6 particles.
7 THE WITNESS: The articles that I've read on this
8 subject indicate there's not a consensus --
9 MR. GROSSMAN: Okay.
10 THE WITNESS: -- that it's a work in progress.
11 MR. GROSSMAN: Okay. All right.
12 THE WITNESS: So we're down now to the, one, two,
13 three four, the fifth bullet point. The issue is how
14 important is .01 micrograms per cubic meter in terms of PM
15 2.5. EPA does define at what level -- and this is a Class 2
16 region in terms of how EPA designates air regions -- that
17 0.3 micrograms per cubic meter of fine particulates on an
18 annual basis is where they define significance versus
19 insignificance for an incremental source. Using .01, the
20 scaled-up version, in comparison to .3 shows approximately a
21 30-fold lower concentration at the closest home to the
22 Costco operation than what EPA defines as being significant.
23 On that basis, I would conclude that the contributions of
24 fine particulates from Costco are clearly not significant,
25 even at the closest home.

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1 MR. SILVERMAN: Can I just, can I ask a
2 clarification? Could you tell us where this is?
3 MR. GROSSMAN: Where what is?
4 MR. SILVERMAN: EPA defines. Where does it define
5 it?
6 THE WITNESS: The prevention of significant
7 deterioration regulations show 0.3 in EPA's, you know, the
8 guidance documents, 0.3 micrograms per cubic meter as a
9 significance level for a Class 2 region, PSD.
10 MR. SILVERMAN: So it's PSD. So --
11 THE WITNESS: I'm using that as a benchmark
12 example of how they define significance.
13 MR. SILVERMAN: Right. And so, and when you say
14 that you -- I don't know how far to go, but it seems it
15 would be helpful to know that there was, on January 23rd,
16 that the Circuit Court --
17 MR. GROSSMAN: No, no, no, no, no.
18 MR. SILVERMAN: No? Okay. Okay.
19 MR. GROSSMAN: No. We'll do that -- you save any
20 of that for cross-examination.
21 MR. SILVERMAN: Thank you.
22 THE WITNESS: And, finally, based upon the above,
23 in terms of ultrafine particles, there's no objective or
24 rational basis for concern based upon ultrafine particulate
25 concentrations from the Costco gas station. And I'm basing

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1 that statement on the fact that it's so far below what's
2 defined as in a significance level that the fraction of
3 ultrafines would be, have to be so small that there's really
4 not a reason, based upon the available facts at hand, to
5 conclude that ultrafines at this particular gas station are
6 causing a health concern.
7 MR. GROSSMAN: Based on weight, but you say
8 there's no consensus regarding numbers of ultrafine
9 particles?
10 THE WITNESS: That's correct.
11 MR. GROSSMAN: Okay.
12 MR. GOECKE: And, Mr. Grossman, this may be a good
13 point to take a break.
14 MR. GROSSMAN: All right. It's approximately
15 11:34. So we'll come back at about 11:40.
16 MR. GOECKE: Thank you.
17 (Whereupon, a brief recess was taken.)
18 MR. GROSSMAN: All right. Back on the record. So
19 we continue with the direct of Mr. Sullivan.
20 THE WITNESS: I'm on Slide 53 at this point, of
21 the PowerPoint presentations.
22 MR. GROSSMAN: Okay.
23 BY MR. GOECKE:
24 Q Actually, I think you might have skipped 52.
25 A Did I? Yep, thank you. Fifty-two we did skip.

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1 I'll start on Slide 52. This addresses the issue of the
2 four a day of the diesel, clean diesel fuel at the Costco
3 gas station. To clarify it, it's four clean diesel trucks
4 per day. To put that in context, if you look at Veirs Mill
5 and Georgia Avenue, it's on the order of 100,000 vehicles a
6 day. Basically, in the fleet mix for this area, 1.25
7 percent of those vehicles are diesels. That would mean that
8 1250 diesel vehicles per day are traveling in this area.
9 Costco has four. The four Costco vehicles are clean diesel
10 vehicles. The other vehicles, some of them are, some of
11 them aren't. So this -- for perspective, it's important to
12 keep that, that in mind.
13 I'm quoting from a peer-reviewed article here
14 authored by Dr. McClellan, who, if I recall correctly, used
15 to be the chair of the CASAC committee and quite a
16 well-respected scientist.
17 MR. GROSSMAN: What's the CASAC committee?
18 THE WITNESS: The Clean Air Act Science Advisory
19 Committee.
20 MR. GROSSMAN: Okay.
21 THE WITNESS: And these quotes are from him, his
22 article, basically, that states that the emissions of
23 particulate mass in new technology diesel engines, clean
24 diesels, are substantially less than one percent of those
25 from 1998 engines.

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1 MR. GROSSMAN: What does NTDE stand for?
2 THE WITNESS: New technology diesel engines.
3 MR. GROSSMAN: Okay.
4 BY MR. GOECKE:
5 Q And do you know when the new technology diesel
6 engines became available?
7 A They've been phasing in the improvements over the
8 last 10 or 15 years, but the term clean diesel technology
9 had a different significance. Around 2006/2007 is when
10 their major changes kicked in.
11 Q That's when the major improvements took place?
12 A Correct. So those vehicles are being entered into
13 the fleet. Costco is using those vehicles now. In terms of
14 the nanoparticle numbers, ultrafine particles, contained in
15 this new technology diesel engines, are well below typical
16 urban ambient air concentrations -- that's the source of the
17 article, the statements made earlier -- and amount to a
18 10,000-fold reduction when compared against older diesel
19 engines not equipped with diesel controls as defined in
20 Barone et al., 2010.
21 MR. GROSSMAN: DPFs are diesel controls?
22 THE WITNESS: I don't know exactly what the DPF
23 refers to --
24 MR. GROSSMAN: All right.
25 THE WITNESS: -- but it's diesel control

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1 technology. So when individuals bring up articles that
2 discuss diesel technology prior to new technology diesels,
3 it's apples and oranges, doesn't compare. And most
4 importantly, the point that's made on Bullet Point 4 is that
5 the new diesel technology is virtually free of elemental
6 carbon particles. Those are the carriers for toxic air
7 pollutants that can get into the lungs. That's a, although
8 the carbon -- elemental carbons themselves are not as, and
9 perhaps, as dangerous, the toxic constituents that basically
10 absorb onto those particles are the primary cause of
11 concern. Those have been substantially reduced in the new
12 technology.
13 So this is basically a success story. EPA and
14 industry have worked together to take a technology that
15 environmentally was not healthy and has made it a lot more
16 so healthy.
17 MR. GROSSMAN: Excuse me one second. Mr. Goecke,
18 I remember it being said earlier on the testimony that
19 Costco will utilize these clean diesel trucks, but I also
20 remember it being said that this was, that the fuel was
21 delivered by various suppliers, not by Costco itself.
22 MR. GOECKE: Right.
23 MR. GROSSMAN: And how do we know for sure that
24 they will all use these clean diesel trucks?
25 MR. GOECKE: My understanding is --

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1 MR. BRANN: It's actually a State of Maryland
2 requirement.
3 MR. GROSSMAN: Yes. Why don't you identify
4 yourself for the record, Mr. Brann.
5 MR. BRANN: I apologize. It's Erich Brann with
6 Costco. That clean diesel technology is a State of Maryland
7 requirement. So they all have to meet certain requirements
8 to operate within the state. It's not just Costco.
9 MR. GOECKE: And that requirement is for gas
10 stations or for --
11 MR. BRANN: It's for operators of diesel vehicles
12 within the State of Maryland. It's a --
13 MR. GROSSMAN: Do we know whether they were given
14 a specific amount of time? And I'll take it that your
15 answers are still under oath, Mr. Brann.
16 MR. BRANN: I agree. No, I don't know the answer
17 to that question off the top of my head. I know this change
18 occurred in 2007 when the technology change occurred. It
19 was based on a combination of the fuels and the technology
20 catching up with, with the -- the fuels catching up with the
21 technology. But --
22 MR. GROSSMAN: So I take it that the applicant
23 wouldn't object to a proposed condition that all the fuel
24 trucks be this clean technology?
25 MR. BRANN: No.

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1 MR. GROSSMAN: Okay. All right. I'm sorry. Go
2 ahead, Mr. Sullivan.
3 THE WITNESS: So to conclude on this slide, based
4 upon the available literature, my conclusion is the diesel
5 emissions from the Costco gas station are not significant.
6 Now, this is Slide 53, which perhaps will provide
7 some perspective on particle counts that we discussed
8 earlier, before the break, and what I'm really providing
9 here are comparisons between indoor sources of ultrafine
10 particulate matter. First is outdoor sources from mobile
11 source emissions. So this Glystos et al. article,
12 published in Atmospheric Environment (2010), is providing
13 particle counts on the y-axis of Slide 53 in terms of number
14 of particles per cubic centimeter for various types of
15 things that occur in a home, and you see frying onions is
16 over 100,000 count; smoking, roughly 180,000; burning a
17 candle, over 300,000; use of a hair driver, 250,000-plus;
18 vacuuming, not so much, which is a bit surprising to me;
19 burning incense, about 140,000. But this is from a
20 different reference that's on the next page, but this is
21 particle counts next to I-110 in Los Angeles. If anyone's
22 ever been to Los Angeles and been on Highway I-110, it's a
23 really packed road; it's jammed most of the day when I've
24 been there. It's very highly, highly traveled --
25 MR. GROSSMAN: Is there any reason why we moved

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1 from counts per meter to -- per cubic meter to counts per
2 cubic centimeter?

3 THE WITNESS: That's how they report it in the
4 literature, you know. We could have, we can convert them if
5 you'd like, but this is how they -- this is directly from
6 the literature itself. We could divide by a, let's see, by
7 10 to the ninth -- 10 to the sixth divided by a million we'd
8 have to do, but that's, it's just a unit standard. It's --

9 MR. GROSSMAN: Well, I'm just trying to get an
10 idea compared to your other counts, and it's --

11 THE WITNESS: Right. Divide it by a million, you
12 could, you know, this would become -- instead of being
13 300,000, it would be what, .3 --

14 MR. GROSSMAN: Okay.

15 THE WITNESS: -- to .1. But the main point I'm
16 making here is that this is 130 meters from a very heavily
17 congested roadway. It's difficult for me to imagine a
18 roadway much more congested than the LA freeway system -- a
19 lot lower in the ambient air near a major roadway, including
20 rush-hour traffic, than you tend to see inside a home with
21 these activities. So just for context on a relative basis,
22 hopefully that provides some context. Smoking, and I could
23 -- as an example, smoking, when you smoke a cigarette,
24 you're inhaling, according to the EPA, on the order of
25 100,000 micrograms per cubic meter of fine particulates, not

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1 ultrafines, but fine particulates. The fraction would be
2 probably relatively high.

3 So there's a lot of things done in a home that
4 are, that can create much higher levels of ultrafines than a
5 gas station that maxes outdoors at .01, mass-wise,
6 micrograms per cubic meter. In fact, according to EPA's
7 statement that I could reference if need be, if you smoke
8 one cigarette, you're getting enough exposure from that one
9 cigarette that, according to the .01 we've modeled here, you
10 have to breathe .01 for -- .01 micrograms per cubic meter --
11 for 274 years to get the equivalent exposure from smoking a,
12 one cigarette. So indoor sources and other personal
13 activities can result in way higher concentrations of fine
14 particulates -- I'm not discussing the ultrafine particles
15 right here -- as compared to outdoor sources.

16 BY MR. GOECKE:

17 Q So let's be clear about that. So you just
18 compared the amount of particulates from smoking one
19 cigarette to the emissions from the proposed Costco gas
20 station?

21 A Correct. My statement was that EPA has stated
22 that smoking a cigarette produces between, you ingest
23 between 25,000 to 100,000 micrograms of, 25 -- 10,000 to
24 40,000 micrograms of PM 2.5. If you smoke a cigarette over
25 15 minutes to get that exposure, it would take -- you'd be

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1 breathing air of 100,000 micrograms per cubic meter of PM
2 2.5.

3 Q Okay.

4 A So if you were to divide that exposure by what
5 you'd be breathing at .01 micrograms per cubic meter,
6 breathing 24 cubic meters a day of air, which EPA usually
7 assumes, you have to breathe for 274 years to get a
8 comparable exposure to that one cigarette.

9 Q Thank you.

10 MR. GROSSMAN: You didn't mix your cubic
11 centimeters with your cubic meters there in that comparison?

12 THE WITNESS: No, because -- I mean, my comparison
13 was about fine particulates, no, sir.

14 MR. GROSSMAN: Okay.

15 THE WITNESS: Now, this, these counts I showed,
16 those are the last two I showed in the previous, on Slide
17 53. I'm on Slide 54 right now. And the point I'm making
18 here -- this is the LA freeway study, and the reference is
19 shown at the bottom of Slide 54 -- and what's very
20 significant about these two bar charts is that the smaller
21 one, this one here, occurred during the morning rush hour.

22 So during the rush hour itself, when we have
23 direct emissions affecting those monitors, we have numbers
24 on the order of 11,000 particle counts per cubic centimeter.
25 During the period of 11:00 a.m. to 2:00 p.m., past the

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1 morning rush hour, the highway is probably still a mess but
2 it's not, most likely, as jammed as it was in the morning
3 rush hour. You notice that, even though it's off peak, the
4 concentrations are higher. They went from approximately
5 11,000 counts to 17,000 counts, and as the authors in this
6 peer-reviewed article state, that's, they're hypothesizing,
7 that's due to secondary-produced particles on a regional
8 basis. In other words, the regional air in the metropolitan
9 area has many gases emitted by particles and other source of
10 emissions. Under the influence of the sun and photochemical
11 activities and other actions in the atmosphere, fine
12 particles and ultrafine particles are produced in the
13 atmosphere over miles of travel across the city. That's
14 what you're seeing here, according to the authors.

15 So my point is, if the concern is ultrafines and
16 EPA in the future is going to address ultrafine particles,
17 it's going to go, in this case, go after automobile
18 emissions and other sources that are created in that
19 regional mixture of chemicals that's causing the creation of
20 fine and ultrafine particles, and that's a good example of
21 what occurs.

22 The article also goes on to state that the
23 toxicity of these reactive pollutants is higher than the
24 direct emissions in terms of toxicity and health issues, and
25 that can be reviewed in this particular reference,

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1 Atmospheric Environment, article published in 2009 by Varma
2 et al.
3 BY MR. GOECKE:
4 Q Okay. And I believe your next slide starts to
5 talk about ultrafine particulates and how they compare with
6 fast-food restaurants or --
7 A Right. Now, do we, do we want to get into, this
8 will be another -- what I'd like to do at this point, if
9 it's acceptable, is go into -- we submitted a report on
10 this. If I can use the report as my, my prop to talk from,
11 because I don't have slides necessarily in here from that.
12 MR. GROSSMAN: All right. Which exhibit number
13 are we talking about? Are you talking about your, from your
14 original report?
15 THE WITNESS: No. It's the fast-food report --
16 MR. GROSSMAN: Oh, okay. Yes.
17 THE WITNESS: -- that was submitted several weeks
18 ago.
19 MR. GROSSMAN: Right. I know the piece of paper
20 you're talking about, and I have a copy of it here. Let me
21 see if I indicated the exhibit number on my copy of it.
22 THE WITNESS: My question, Mr. Grossman, do we, do
23 we want to get into a topic like that before lunch? Do you
24 want me to start it now, or do you want me to do it after?
25 MR. GROSSMAN: Oh, sure. We're not hungry yet,

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1 are we?
2 MR. SILVERMAN: Oh, we are.
3 MR. GOECKE: I think it's 125.
4 MR. GROSSMAN: All right. So this is -- I have
5 two things. I have the Exploratory Assessment of Terrain
6 Flow. That's not the one you're talking about. You're
7 talking about the one from --
8 MR. GOECKE: 125.
9 MR. GROSSMAN: -- May 3, 2013, Focus on Fine
10 Particulates Emitted from a Gas Station are Misguided and
11 Focused on the Wrong Sources --
12 MR. GOECKE: I think that's right.
13 MR. GROSSMAN: -- is that the one you're talking
14 about?
15 THE WITNESS: I don't think that's the title I
16 had, but it was fast-food restaurants. It was the -- well,
17 let me bring that up. I'll show you what it looks like.
18 MR. GROSSMAN: Yes. That does the comparison with
19 fast-food.
20 THE WITNESS: Oh, yes, sir, that is my, that is my
21 title.
22 MR. GROSSMAN: Okay. And I'm sorry, Mr. Goecke.
23 What exhibit number was that?
24 MR. GOECKE: This is 125(a).
25 MR. GROSSMAN: Okay, Exhibit 125(a), and just so I

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1 label it here, his other submission, the Exploratory
2 Assessment of Terrain Flow, what was that one?
3 MR. GOECKE: We've got that as 125(b).
4 MR. GROSSMAN: Okay. All right. So let's turn to
5 Exhibit 125(a) and --
6 THE WITNESS: And I'll just read this as an intro
7 to that particular report.
8 MS. ROSENFELD: Pat, do you have an extra copy?
9 MS. HARRIS: No, I don't unfortunately. I don't
10 have it with me, sorry.
11 MR. GROSSMAN: Is that okay, Mr. Goecke?
12 MR. GOECKE: I'm sorry?
13 MR. GROSSMAN: Do you want your witness to read
14 that as an intro?
15 MR. GOECKE: Sure.
16 MR. GROSSMAN: All right.
17 THE WITNESS: The first point -- and this is Slide
18 55 -- is that fast-food restaurants are a common commercial
19 facility in Montgomery County and throughout the United
20 States. They're not an unusual source in any respect. I'm
21 providing a quote in here from this particulate referenced
22 study that introduces the topic that fast-food restaurants
23 or any, any restaurant that grills food, especially those
24 that use charbroiling, which has higher temperatures, create
25 a fair, quite a high level in many cases of ultrafine

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1 particles, and this statement here is that those levels can
2 be similar to those near major freeways, and I'm sure it
3 really depends on how close you are to the exhaust from
4 these particular restaurants. But based upon that article,
5 I, I went and looked further into the topic and produced the
6 report that's Exhibit No. -- I'm sorry. What is it again?
7 BY MR. GOECKE:
8 Q 125(a).
9 A 125(a). And I can shrink this a little bit. I
10 want to, I want to preface my remarks by saying this is not
11 an attack on the fast-food industry. I'm not taking a
12 position that they're dangerous and should be outlawed or
13 anything like that.
14 MR. GROSSMAN: My wife says they're dangerous.
15 So --
16 THE WITNESS: Oh.
17 MR. GROSSMAN: For different reasons.
18 THE WITNESS: Different reasons. But I am using
19 it as a point of comparison and a point of perspective. And
20 the issue, the issue here really is that -- I want to give
21 this quote from Mr. Wallerstein, who at least was, I'm not
22 sure he still is, the director of the South Coast Air
23 Quality Management District, which is part of CARB that we
24 discussed earlier, and his quote is: For comparison, the
25 average diesel-engine truck on the road would have to drive

1 10 miles on the freeway to throw out the same mass of
2 particles as a single charbroiled hamburger patty. Well,
3 that, that was a true statement back in 1997 or so. It's
4 more in miles now because, at this point in time, the 2013
5 fleet heavy-duty diesel-truck emissions is approximately .1
6 gram per mile and the hamburger puts out five grams. So do
7 the math. It would be 50 miles of travel for an 18-wheeler
8 at the current fleet, not clean diesel, but the current
9 fleet, it would take, it would take 50 miles of travel on
10 the freeway for the same amount, massive particles, fine
11 particles, as a single charbroiled hamburger patty.

12 Now, in fairness, this statement is based upon
13 uncontrolled emissions. The control is 85 percent. So you
14 could reduce it. You know, obviously, it would go from,
15 from 10 miles down to what, one-and-a-half miles in mine if
16 it was controlled. In the -- one-and-a-half for the, for
17 the current technology would be different, but it would
18 probably be about, well, six or seven miles. But the point
19 is taken that it may be surprising to a lot of people, it
20 frankly was surprising to me that the emissions from these
21 restaurants were as high as they were.

22 It's based upon a study, as I mentioned before,
23 that was, that was sponsored by the South Coast Air Quality
24 Management District. It was conducted by University of
25 California at Riverside, and they developed chambers and

1 they would grill hamburgers in the chambers, and they would
2 measure what the particulate levels were, mass as well as
3 the particle counts, and they did that to determine if
4 further controls were deemed necessary, and they also did it
5 to determine what the effectiveness of controls would be.
6 So that's the, let me go to the -- let's see where I want to
7 go from here.

8 MS. ADELMAN: Mr. Grossman --

9 MR. GROSSMAN: Yes.

10 MS. ADELMAN: -- may I ask just for a point of
11 clarification, the particles that the quote refers to are PM
12 2.5s?

13 MR. GROSSMAN: Just for the record, this is
14 Ms. Adelman --

15 THE WITNESS: Correct.

16 MR. GROSSMAN: -- asking a clarification question.
17 Go ahead.

18 THE WITNESS: Yes. They show PM 2.5. They also
19 show particle counts in the report itself, but I'm referring
20 to PM 2.5 right now.

21 MS. ADELMAN: Thank you.

22 THE WITNESS: So what we have done -- and this is
23 for demonstrations purposes only. We aren't, you know,
24 picking on Wendy's or Elevation Burger or any of the ones
25 near the mall. We're just using some general numbers here,

1 and what I'm, what I'm showing is, first of all, this is
2 Slide -- well, it's not a slide. It's Exhibit No. 125 --

3 BY MR. GOECKE:

4 Q (A).

5 A -- (a), and on the first column, I'm showing
6 examples of different types of sources, and first I'm
7 showing the griddle grilling of a hamburger, charbroiling a
8 hamburger, because they evaluated both in the UC-Riverside
9 study, how much emissions, grams per second, there are from
10 a gas-idling queue at Costco, the incremental ring road from
11 the four diesel trucks, and the 300-meter stretch of Georgia
12 Avenue. These are grams per second, and this would be
13 during the operational time period of the mall or Costco,
14 and I'm assuming the same type of hourly, hourly factors for
15 the fast-food as well. But the issue here -- this is
16 uncontrolled in the second column, and I'm showing
17 controlled emissions in the third column. And so basically
18 you can see that the gas queue idling source -- and this is
19 on average; this is based upon a 10-car queue, the average,
20 annual average -- is .00008. The controlled griddle source
21 is .001. That's, I'm saying it's approximately a 60-fold
22 difference.

23 Q And again, when you say controlled, what do you
24 mean?

25 A This is assuming that 85 percent of the PM 2.5

1 will be removed by catalytic converters or other filtration
2 -- or filtration systems that are put in place at the
3 restaurant. Now, they don't have to do this per se, and
4 Maryland doesn't have a requirement, based upon our
5 conversations with them, that if you do grilling of food,
6 you have to have a catalytic converter, but they do have, as
7 I mentioned before, opacity regulations in the books, and if
8 you see it in the opacity requirements, you might certainly
9 have force to put on a control device. But basically, what
10 this is showing is that -- it puts the gas-idling queue in
11 perspective, all I'm trying to do here, is that the, showing
12 the potential for emissions from these sources is
13 tremendously higher than the gas queue. Even after control,
14 if you do the math -- I'm projecting approximately a
15 controlled griddle operation where you're having the amount
16 of hamburgers grilled like a typical McDonald's average --
17 you'd be putting out on the order of 60 times more PM 2.5
18 per restaurant than the gas queue at Costco.

19 MR. GROSSMAN: Let me ask a question about that.
20 Assuming that these figures are correct in terms of the
21 production of these particles, is there any study done as to
22 whether or not the kind of particles emitted would have the
23 same likelihood of being dispersed in the atmosphere over a
24 distance compared to those produced by either diesel trucks
25 or idling cars?

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1 THE WITNESS: Well, I mean, the situation with
2 the, with the exhaust fan at the, at the restaurant, it'll
3 be, it'll be hot. It won't be like a smokestack hot, but
4 it'll be relatively hot. It'll be coming out with some
5 momentum with exhaust, and it'll then be, gather some
6 dilution from the building its attached to.
7 So I would say in that context, yes, there'll be
8 greater dilution than from the cars. I won't say it'll be a
9 factor that'll make up the 60-fold different emission rates,
10 but it would be, it would tend to form some additional
11 dilution beyond what you get from the queues at the gas
12 station, that's correct.
13 MR. GROSSMAN: Okay.
14 MS. CORDRY: Could we ask one --
15 THE WITNESS: We didn't do a modeling analysis to
16 compare --
17 MR. GROSSMAN: Go ahead, finish your sentence.
18 THE WITNESS: We didn't do a modeling analysis to
19 compare a fast-food restaurant's exhaust and model those
20 emissions relative to the gas station.
21 MR. GROSSMAN: Right, because these are remarkable
22 comparisons, but I just wonder whether their ultimate
23 impact, assuming they're correct, whether their ultimate
24 impact is reflected by the numbers. That's the reason for
25 my question.

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1 THE WITNESS: I would say, you know, considering
2 if we had done a modeling analysis of a particular fast-food
3 restaurant, which I'm not advocating doing, but if we did,
4 that we would find, it would be somewhat less than 60. It
5 would still be much higher than a gas station, but they
6 would get some dilution from the fact that it does have an
7 exhaust fan and it's not really hot but it's going to be
8 hotter than the ambient air and that would tend to give
9 greater dilution before it hits the ground.
10 BY MR. GOECKE:
11 Q But, Mr. Sullivan, to put it another way, are
12 particulates from a fast-food restaurant different or more
13 toxic than particulates from a gas station or from a candle
14 or from other sources?
15 A The, this particular study I'm referring to did do
16 some assessment of the VOCs, and if I could recall correctly
17 -- volatile organic compounds -- and they did mention some
18 carcinogens that are present in the exhaust stream from the
19 fast-food restaurants. So I can say they both have
20 carcinogens in them. Of course, tailpipe exhaust has, you
21 know, 1,3-butadiene, has benzene in it, those are
22 carcinogens, and the fast-food restaurant does as well. I
23 can't, as I sit here today, do a direct comparison, do the
24 analysis of, as Mr. Grossman said, the actual dilution
25 conditions and compare the different carcinogens and the

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1 potency of those carcinogens, but they both have them, and
2 emission-wise, of course, the fast-food restaurant puts out
3 a lot more mass of particles.
4 MR. GROSSMAN: Yes. So my question didn't go to
5 toxicity. It went to how, how they would spread over the
6 neighborhood.
7 MR. GOECKE: Okay.
8 MR. GROSSMAN: Okay.
9 THE WITNESS: And so I'm showing other points of
10 comparison, but I think the main, the main take-home message
11 here is, in terms of, of potential to emit and actual
12 emissions that have control, that it would seem inconsistent
13 if the County were to take the position -- this is just my
14 opinion -- that, take the position that the emissions from
15 Costco's gas queuing, for example, or the overall emissions
16 from the Costco facility were a significant problem, but in
17 this example here, there's, I think I counted 56, I have a
18 figure coming up, 56 fast-food restaurants near the triangle
19 comprised of Georgia Avenue, Veirs Mill, and University, and
20 I'm just putting that for perspective.
21 And this, if I can shrink this down, this shows
22 what I just said more graphically. This is a graphical
23 comparison to the previous slide, and this is, this is again
24 from 125(a) or (b).
25 BY MR. GOECKE:

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1 Q (A).
2 A (A). Uncontrolled charbroiling, .0135; this is
3 showing the grilling, grilling of hamburgers, and this is
4 with control in place -- I can get the top of this -- yeah,
5 with control in place; gas queue at Costco, very small; ring
6 road with the four diesel trucks, and this is based upon
7 using peak emissions all the time and assuming that we're
8 using not clean diesel but 2013 fleet diesel, that's
9 overstated; and then this is comparing a 300- -- I can't
10 read my writing here. It's comparing a stretch of Georgia
11 Avenue, and make sure I get this, I guess it's a 900-meter
12 stretch of Georgia Avenue, those emissions for another point
13 of comparison, so -- with the point well-taken that the
14 dispersion is somewhat different. As you get, as you get
15 any distance from that restaurant, those effects of the vent
16 and so forth become less and less with distance, and the
17 effect of this kind of a source on the homes nearby would be
18 greater than this, much greater, than the gas queue and
19 other sources at Costco, and that's my take-home message
20 from this slide.
21 MR. GROSSMAN: Are those figures for the
22 charbroiling and the grilling, are they with the pollution
23 controls or not?
24 THE WITNESS: With 85 percent control.
25 MR. GROSSMAN: Those are with, okay.

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1 THE WITNESS: And this is the map I was referring
2 to earlier, and this was based upon doing a, a search,
3 online search of fast-food. I've highlighted a couple of
4 the, of the fast-food restaurants near the gas station, near
5 Wheaton Mall or at Wheaton Mall, and as you can see, here's
6 the location of the gas station, the school is located right
7 there, and the homes are, of course, right in this area
8 here. We have Elevation Burger, McDonald's, Arby's, Wendy's
9 right in this area here, plus a few others that grill, and
10 these are showing other restaurants, fast-food-type
11 restaurants that are in the area. I counted 56 of them. I
12 might have missed it. It's kind of hard to do this count.
13 My point is, there's a lot of them. We've talked about what
14 one would do. Composite-wise, of course, they're a much
15 larger source than we're talking about from gas station
16 emissions.

17 MR. GROSSMAN: So your motto is eat them, don't
18 breathe them, right?

19 THE WITNESS: Correct, eat them and get away
20 quickly. I didn't -- the rest of it can be read. It's
21 documentation, but those are the slides that I intended to
22 show.

23 BY MR. GOECKE:
24 Q Yes, thanks. Why don't we move back to the main
25 PowerPoint presentation now.

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1 MR. GROSSMAN: Mr. Goecke, how much longer do you
2 anticipate Mr. Sullivan's direct?

3 MR. GOECKE: At our current pace, I think it will
4 take at least an hour.

5 MR. GROSSMAN: Okay. Ms. Rosenfeld has promised
6 to keep her cross under 10 minutes. So -- she's drinking
7 something now; she can't even respond.

8 MR. GOECKE: Five-hour energy drinks?

9 MS. ROSENFELD: Do I need to respond for the
10 record?

11 MR. GROSSMAN: Okay. Go ahead then.

12 THE WITNESS: In a lot of the public hearings that
13 have been held for this project and in community meetings,
14 there's been a lot of discussion about the risk at the
15 school and the pool, and frankly, a lot of people have
16 gotten alarmed based upon those discussions, based upon my
17 participation in those meetings. And I've tried to make the
18 point as objectively and honestly as I can that I feel that
19 in some ways that some folks are getting alarmed when they
20 really shouldn't be and particularly at the school, the
21 Stephen Knolls School, talked a lot about asthma and how
22 children are affected by particulate matter that have
23 asthma, totally true, but to then try to link this to
24 Costco's .01 micrograms and take the position, well, it's at
25 10.8 now and, you know, 10.80-something, small, will be a

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1 problem, is just not supported by fact. There's no science
2 that supports that position. We showed those data for the
3 risk, for the cancer risk. It was .003. Some parents are
4 alarmed about the fact the kid is going to get cancer going
5 to that school because the gas station is going in. We
6 heard this at public meetings. There's no rational basis
7 for those concerns.

8 Secondly, if you compare the risk at the school --
9 MS. ROSENFELD: Objection. Mr. Grossman --
10 MR. GROSSMAN: Yes.
11 MS. ROSENFELD: -- Mr. Grossman, he's opining now
12 on health effects, not risk standards, and I do think that's
13 beyond the scope of his expertise.

14 MR. GROSSMAN: I'll take, once again, I'll take
15 that objection as going to the weight of what he -- the
16 weight to be given what he says. I think that, if I
17 understand him correctly, he's basing this on a statistical
18 comparison, not on an evaluation of health per se, if I
19 understand correctly what he's saying.

20 THE WITNESS: I'm basing it on --
21 MS. ROSENFELD: I think you need to ask him what
22 he said.
23 THE WITNESS: I'm basing it on, for example, on
24 health risk assessment of VOCs. I'm basing it upon the
25 California 10-in-a-million criteria for reporting, as an

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1 example. And in terms of all the other pollutants, I'm
2 basing it upon the Clean Air Act-established thresholds,
3 which are established by experts in health. Again, I'm like
4 the traffic policeman, seeing if you're going over or under
5 the speed limit. I'm not setting the speed limit. If the
6 limit on fine particulates is 12 and we're at less than 12,
7 I'm making the statement that it's less than the standard
8 that was designed to be protective, and therefore I'm
9 concluding that it's acceptable based upon EPA criteria.

10 MS. ROSENFELD: To the extent his testimony is
11 going to the standards, that's, that's fine. To the extent
12 he's opining on the effect on health, I do think that's
13 beyond the scope of his expertise.

14 MR. GROSSMAN: Right. I understand. I overruled
15 the objection to the extent that we, that I discussed. That
16 is, I think that it's -- I don't think you have to be a
17 medical expert to comment on the standards that have been
18 set which have a health aspect to them. So I think it's
19 legitimately within his area of expertise as defined, having
20 done so many of these studies as conceded in, in his, the
21 opening voir dire.

22 THE WITNESS: So my point here -- and this is now
23 talking about the National Ambient Air Quality Standards --
24 these are developed to be protective of the most sensitive
25 subpopulations, with a regional margin of safety, and

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1 specifically for children and asthmatics. That's in the
2 Clean Air Act. That's not an optional thing for the
3 administrator. So I'm accepting those as a meteorologist,
4 not a health expert, that if we are under those standards in
5 this modeling, that it's, that the air quality is
6 acceptable. It is acceptable on that basis --
7 MR. GROSSMAN: By under those standards, once
8 again, you mean compliant with those standards?
9 THE WITNESS: Correct.
10 MR. GROSSMAN: Okay.
11 THE WITNESS: It's less, the air concentrations
12 are modeled in a manner that's extremely conservative --
13 overstating is under those standards -- that the air quality
14 is acceptable. It's the only benchmark, again, that we have
15 that's objective and can be reviewed in an objective matter.
16 All standards in risk assessment guidance are met with wide
17 margins at both the school and the pool, and on that basis,
18 I'm concluding that the risks in terms of the incremental
19 Costco gas station emissions are not significant at either
20 one of those locations or in the neighborhood.
21 Now, this topic, No., Slide No. 57, is one of the
22 areas that Dr. Cole and I have diverged on. Again, we,
23 had a good meeting. We tried to come to a consensus. We
24 came a lot closer, and frankly, I wish we had more meetings
25 because I did enjoy meeting with Dr. Cole. But this is one

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1 place we didn't agree, and I'll do my best in laying out
2 Dr. Cole's position, and I'm sure when he testifies, he'll
3 let me know if I didn't do it quite right, but I'm going to
4 try.
5 His position is that for this, for this gas
6 station, that Costco should have done long-term air quality
7 monitoring to more specifically evaluate the background
8 concentrations at this location in Wheaton. Furthermore,
9 his position was, because of the fact that there was some
10 terrain complications -- that is, a hill close-by to the gas
11 station that goes downhill towards the community -- that
12 micrometeorological assessment should have been done at the
13 location to bolster and support dispersion modeling. I
14 mean, I think I'm fairly stating his position, and I would
15 ask when he testifies, any of these things he can clarify if
16 I'm not.
17 I'm a meteorologist. I've been a meteorologist,
18 practicing since 1974. I've done micrometeorological
19 assessment hundreds of times, put up MOD towers and
20 collected data. I've never set up a meteorological station
21 to support air quality permits. It's not done unless it's
22 an extremely complicated case or a tall-stack power plant,
23 you want to get winds way high up. It's just not the
24 practice.
25 The practice is you use regional data, unless

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1 you're in an extremely unusual situation, in a valley
2 somewhere with no data, you use regional data in Washington,
3 D.C., especially, to conduct dispersion modeling. I can't
4 think of one instance in my career, which spans 39 years,
5 where I've seen an applicant asked to collect data for a
6 meteorological assessment in a manner like this, for an
7 industry. I have seen it for power plants; in tall stacks
8 it can happen. It's certainly happened for nuclear power
9 plant sites, which I've done it there, but for a gas
10 station, probably isn't a gas station in the United States
11 that had a micrometeorological study done for it or a
12 special air quality monitoring study done for it as well.
13 It's just not standard practice. And with all due respect
14 to Dr. Cole, who I, he's an excellent scientist and I
15 respect his abilities, that is not, that's not a standard
16 practice.
17 This would be very novel to ask Costco to do so
18 because, for example, if we were to do a micrometeorological
19 study in depth, you'd be collecting meteorological data for
20 months, possibly for years. And, if you're going to collect
21 air quality data to define background concentrations -- to
22 do it the way EPA wants it done, it's a three-year study --
23 you'd be collecting data for three years.
24 BY MR. GOECKE:
25 Q And why do they require the three-year period?

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1 A Because, if you have a small data set, it's
2 unstable, meaning you may get real high values, real low
3 values. When you have three years of data, you have
4 distributions that are pretty stable. If you had another
5 three-year period, it would tend to look similar, taking
6 away the trends that may be happening in emissions. So
7 that's, that's the practice. That's why EPA says use
8 regional data but use it conservatively, take the high
9 values and assume that happens all the time. I suppose if
10 the applicant didn't want to do that and said no, I don't
11 want to do that, I want to get my own data, they'd probably
12 let him do it. He would delay the project for three years
13 and spend a tremendous amount of money, and you know, and it
14 just is not standard practice, is not necessary.
15 So we didn't agree on that point, and the
16 meteorological data that we're using, which is National
17 Airport, is very standard for modeling in this area. I
18 don't believe we had a disagreement on using National for
19 the modeling. I know Dr. Cole would like to have seen some,
20 you know, local data, but we did, in our protocol, call for
21 National Airport. That's what we used, and I will argue, in
22 my professional judgment, that would be acceptable to
23 Maryland Department of the Environment, Virginia Department
24 of Environmental Quality, or any of the regulatory agencies
25 I've worked with over the years. It's not -- it's a fairly

1 flat area; there's no terrain complications in terms of
2 being near a valley or an ocean interface. It's not
3 Charleston, West Virginia, where we have a winding river
4 valley, we'll talk about later. It's a pretty flat area.
5 In the modeling I've done in Washington, D.C., for the last
6 35 years, I never had any problem using National Airport.
7 So I'll let that go at that.

8 We spent a lot of time talking about the modeling
9 of the mall, and I won't, I won't go into great detail here
10 because we've made that argument, we went to the flip chart,
11 we have the supplement. My -- Dr. Cole's point, if I'm
12 stating it correctly, is that in his judgment we should have
13 modeled the mall more completely and we should have modeled
14 the loading docks, the parking lots, and perhaps more. I
15 don't want to put words in his mouth, but he felt that it'd
16 been more accurate to model more things.

17 I'm an applied modeler. We do modeling all the
18 time. When you're modeling a source such as this, you don't
19 model all the facilities in the neighborhood. That's not
20 what's done. You model those sources that have a
21 significant impact on your key areas you're worried about.
22 You might model more sources, that's true, but you're not
23 going to do a broad modeling. I mean, I've modeled
24 Baltimore, the entire -- eight counties of Baltimore. I've
25 modeled Philadelphia, many cities for EPA. We don't model

1 every factory. We model all inventory factories. We don't
2 model every gas station or dry cleaners or fast-food
3 restaurants. We model it as a group. We'll cover them in a
4 more simplistic manner, because it's not possible. You
5 can't model everything. And this is one area why we
6 diverged, and I did -- well, I think we both did our best to
7 come to agreement. We both, you know, tried hard to do
8 that, but I didn't agree to modeling beyond the sources
9 we're modeling, and frankly, I didn't because that never
10 ends. I mean, if we agreed to model the loading docks at
11 Target, Giant, and the other places in the mall and all the
12 parking lots, we'd then be modeling the fast-food
13 restaurants and the nearby gas stations. I mean, where do
14 you draw that line? I drew the line where EPA does. We're
15 modeling per EPA's guidance. It's conservative, and I just,
16 extending the scope would be, in my view, it wouldn't add to
17 this project, it would tremendously complicate the scope and
18 the review of the data, and would not be helpful to the
19 finder of fact.

20 MR. GROSSMAN: Okay.
21 THE WITNESS: We've talked a lot about the parking
22 lots, and just to leave the topic, these are the two lots
23 that we modeled. This is the parking garage. This is the
24 parking lots near, near Costco. There are other parking
25 lots. There's other loading docks. What we did in this

1 analysis is that we, we said let's just do an analysis to
2 say let's take a look at the Costco loading dock -- which
3 we've already acknowledged is modeled high, at least
4 two-and-a-half, 2.4 times too high -- and what would happen
5 if we had assumed the same emissions would have come from
6 the loading dock at Target and this general mall loading
7 dock right here, also in the same general vicinity as
8 Kensington --

9 MR. GROSSMAN: The right here, you're talking
10 about the northeast corner of the parking lot.

11 THE WITNESS: Thank you. Yes, I am. So we
12 modeled -- we put in the same emission rate we modeled at
13 Costco, which has a lot greater volume of turnover of
14 trucks, I presume, but I can't state this with fact, than
15 probably Target does or the general mall does, and we
16 assumed it happened the same as it did at Costco. Then we
17 took the other parking lots shown in red. We put the same
18 emission rates we have from Costco, which was shown,
19 substantially overstated, and we used the same emission
20 rates on all those other lots to say what would happen if we
21 had modeled other loading docks on the parking lots, what
22 effect would it have on the core three receptors -- the
23 closest home, the Stephen Knolls School, and the swimming
24 pool. And that's a close-up of the loading docks, that we
25 modeled these two as well, and this is showing the results

1 of that analysis. This is showing the background in blue.
2 This is looking at Slide No. --

3 BY MR. GOECKE:
4 Q I think it's 60, even though it's not numbered.
5 A Yeah, thank you. Slide 60, and this is adding
6 those other loading dock, those two loading dock sources and
7 the parking lot sources, as I just described, and the
8 background is shown, which is almost the whole bar. The
9 original mall is shown in yellow, and the contribution of
10 those other, the more distant sources is shown in red. The
11 increase is all less than .1 percent.

12 Now, why is that? I mean, basically, parking lot
13 emissions are diffused over large areas, to start with.
14 Also, in the current fleet, they don't emit very much
15 particulate matter. We've discussed that before. Tailpipe
16 technology controls emissions tremendously for cars. So
17 that -- and they're also far away compared to Costco's
18 loading dock, which is not that far from the ring road. So
19 when you add that in, if we had done what Dr. Cole had asked
20 us to do -- and I didn't agree to do it for all the sources,
21 but I just did an example here -- it doesn't make a big
22 difference. So, first of all, we've overstated both parking
23 lots and the loading dock, and secondly, the other
24 effective, the more distant locations is not significant.

25 Now we're getting into the terrain issues, and we

1 had, we did have a discussion about this. I admit, I
 2 enjoyed our discussion about terrain, and this will be a
 3 long discussion. I don't know if you want to -- I'll keep
 4 going if you want, but I'm getting a little hungry.
 5 MR. GROSSMAN: Mr. Silverman says he's not hungry
 6 yet. So --
 7 MR. SILVERMAN: Well, I could take a break.
 8 MR. GROSSMAN: When you say this will be a long
 9 discussion, I don't know that it has to be a long
 10 discussion. I'm going to rely on Mr. Goecke to tell me if
 11 he needs to have a long discussion on that.
 12 MR. GOECKE: Define long.
 13 MR. GROSSMAN: I'm going to let you define long
 14 because I don't want to cut off whatever you feel is
 15 necessary to have in your record, but he does have a
 16 document that he's already filed, Exhibit --
 17 MR. GOECKE: 125(b).
 18 MR. GROSSMAN: -- 125(b), which describes his
 19 exploratory assessment of terrain flow. So you have to
 20 assess for yourself whether or not it's necessary to have a
 21 lengthy discussion of it --
 22 MR. GOECKE: I don't --
 23 MR. GROSSMAN: -- as opposed to a smaller
 24 discussion.
 25 MR. GOECKE: I feel like we could cover this and

1 conclude by 1 o'clock if that was our time to break for
 2 lunch.
 3 MR. GROSSMAN: Does that sound fair?
 4 THE WITNESS: Conclude the terrain discussion
 5 before lunch?
 6 BY MR. GOECKE:
 7 Q Yes. Yes.
 8 A Okay. That sounds reasonable.
 9 Q Yes.
 10 A I wasn't thinking hours.
 11 MR. GROSSMAN: I was hoping for even less than 1
 12 o'clock in terms of the terrain discussion, but --
 13 MR. GOECKE: Okay.
 14 MR. GROSSMAN: -- I'll let you guide it then,
 15 Mr. Goecke.
 16 MR. GOECKE: Okay.
 17 THE WITNESS: Well, I think it deserves, you know,
 18 at least a thorough assessment in the context that it can be
 19 an important point. Dr. Cole and I did not agree on this
 20 point, and maybe we're closer now with the data on hand,
 21 maybe we're not, but Dr. Cole's position was that the
 22 modeling that we've done, based upon EPA's AERMOD dispersion
 23 model, is limited and perhaps inaccurate would be a fair
 24 assessment because it doesn't do justice to the fact that
 25 there's a terrain complication here that could act to

1 increase concentrations in the neighborhood relative to what
 2 we say it's going to be. In other words, he's made the,
 3 stated the position in public meetings and in writing that
 4 in his judgment, that the model is understating for some
 5 locations, possibly for the school and possibly for the
 6 homes in Kensington Heights. So in that context, where it
 7 does cut to the credibility of the AERMOD modeling, which is
 8 all the modeling, I think it's important.
 9 MR. GROSSMAN: Okay. So go ahead.
 10 BY MR. GOECKE:
 11 Q Yes. And so why don't you tell us briefly what
 12 you did to test his hypothesis.
 13 A I'm sorry. Repeat that.
 14 Q Yes. Generally, what did you do to test
 15 Dr. Cole's hypothesis?
 16 A There was two major things that we did. First,
 17 during our protocol meeting, we discussed this point in --
 18 we had the protocol in September of 2012. We discussed the
 19 terrain issue, and I don't disagree in principle with
 20 Dr. Cole that if you have a hillside and when it gets cold
 21 at night, that the air can run down the hillside like water
 22 runs down a river. That certainly can happen. And his
 23 point was, well, if it does that, it needs to draw in air
 24 from somewhere else, a vacuum would be created, it's going
 25 to draw air in from the plateau where the gas station is

1 located and could go downhill towards the homes. In fact,
 2 it could go counterflow. We could say the wind's going up
 3 the hill, you know, from the homes towards the gas station
 4 where in fact, potentially, if that situation occurred, it
 5 could reverse. So we could understate the impact at those
 6 locations. That was the hypothesis. I hope I'm stating it
 7 fairly.
 8 MR. GROSSMAN: And after cooking a hamburger in
 9 those homes, they could poison the people in the gas
 10 station.
 11 THE WITNESS: That's exactly right. That would be
 12 the concern. It just takes three hamburgers a day to equal
 13 Costco's queue.
 14 MR. GROSSMAN: All right.
 15 THE WITNESS: So the issue, the issue is, we
 16 agreed to run another model. We ran a model called CALPUFF.
 17 CALPUFF is a more refined EPA dispersion model that can
 18 define complex wind fields. So we ran CALPUFF. There's
 19 limitations in CALPUFF. It couldn't do the wall justice.
 20 There's no question on that because of the scale of that
 21 wall, but we ran, we ran CALPUFF as agreed, to assess what
 22 effect it had on the wind flow and to see what difference
 23 did it make, like, on a month-to-month basis in the
 24 concentrations being modeled as compared to what AERMOD was
 25 showing. And we show those comparisons, and -- in the

1 report -- and basically, if you compare side by side the
2 concentration fields from AERMOD and the concentration
3 fields from this more complex model, CALPUFF, they're
4 extremely similar. There was not a significant difference.
5 So that's the first major thing that we, that we did and,
6 but I don't want -- I'm not sure that was convincing totally
7 to Dr. Cole. He'll have to describe that himself, but we
8 did our best.

9 We've run CALPUFF quite a bit. We run it in many
10 of our studies. We simulated the situation here as
11 accurately as we could, but even CALPUFF has limitations.
12 So CALPUFF can do a lot of things with heat flux terms and
13 differential heating and all the things that Dr. Cole and I
14 talk about all the time. It doesn't do a great job with
15 evaluating the influence of the heat island effect that
16 occurs at a shopping mall. And so that led us to conduct
17 what I called an exploratory study, and we'll get to that
18 perhaps in a few slides, but first of all, before I go
19 there, I want to put this in context, that we're talking
20 about a circumstance that only happens when all these
21 following conditions are in alignment.

22 So in order for the air to roll down the hill and
23 affect the community from the gas station, first of all, the
24 gas station has to be open; secondly, to reverse the flow,
25 we have to have flow basically from the southerly quadrants

1 so that we reverse and go back to the, we can reverse the
2 flow through this gravity flow business and go towards the
3 homes; thirdly, this is a nighttime phenomenon. Yes,
4 there's some unusual circumstances Dr. Cole and I could
5 define when it could happen in the daytime, but it's
6 basically a nighttime phenomenon.

7 BY MR. GOECKE:

8 Q Why is that?

9 A At nighttime, when you have light winds and clear
10 skies, the ground surface cools, gets much colder, the air
11 above it, and when that occurs, that cold air will tend to
12 roll downhill. It's denser. It rolls downhill, like,
13 again, water going downstream, and that can only happen when
14 it's nighttime, when it's clear skies, and when there's
15 light winds; otherwise, you don't get the conditions
16 necessary to create that.

17 Q And so how often do all of those circumstances
18 exist at the same time?

19 A We did an overlay of these five conditions and
20 found, based upon the DCA Washington Reagan data set, they
21 could occur four percent of the time.

22 Q Okay.

23 A So we determined that as the maximum potential.
24 So in terms of annual average, like fine particulate
25 concentration, that's a pretty small portion. So 96 of the

1 time that's not happening; four percent of the time it might
2 happen.

3 Q Okay. Let's go to Slide 64.

4 A Now, the -- my position on this gravity flow
5 situation is, there's a number of reasons why this is not
6 going to be an issue for this project. First of all, the
7 terrain, the terrain slope, if you go to the location and
8 carefully look at terrain maps, as you go towards the, from
9 the gas station towards the ring road as you go south, that
10 ring road has an increase in terrain before it goes
11 downhill. Looking at it carefully, there's a slope up. So
12 the cold air doesn't drain uphill. It drains downhill,
13 takes a path of least resistance. So it would have to go up
14 and over to go down the hillside to go towards the
15 community.

16 Now, that doesn't mean it won't deflect, come
17 down, and go around the ring road, because the ring road
18 basically, it does slope up to the south; then it goes
19 downhill to the east. So we can have flow going downhill to
20 the east. That's exactly, could happen potentially, but the
21 issue that's come up there is, well, what happens if it goes
22 towards the school, how will that affect the children at the
23 school.

24 MR. GROSSMAN: Well, before you get to that,
25 doesn't that -- how much does it go, does the elevation

1 change go up from the level of the gas station to the ring
2 road?

3 THE WITNESS: I don't know the number of feet, but
4 it's a small increase. It doesn't take much in terms of
5 terrain flow to keep it from going, of avoiding going
6 uphill, but it's a matter of feet. It's not like a large
7 increase.

8 MR. GROSSMAN: But doesn't your supposition there
9 depend on whether or not the particular pollutants are
10 created at absolute ground level rather than five feet above
11 ground level?

12 THE WITNESS: Well, most of the, many of the
13 emissions, for example, the tailpipe emissions, are coming
14 out of the exhaust of car when they're queuing, and there'd
15 be -- we're assuming some mixing because the car is not, has
16 some height to it. But, yeah, there'll be some -- it's
17 certainly possible, I suppose, some of it could go up and
18 over, but primarily, by the time it got to that point, we
19 expect, if that were to occur, there would be an unlimited
20 potential to go over that hill, first of all; plus, if
21 there's a wall there, that wall would screen it from going
22 up there anyway.

23 MR. GROSSMAN: Okay.

24 THE WITNESS: And so if the air is going to then
25 go down to the east, downhill, the question then was, would

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1 it go to the school. Well, first of all, the school is open
2 from 8:55 a.m. to 3:10 p.m. Even if we allow some time in
3 the morning for the air to flush itself out of the school,
4 there's a turnover rate inside the, any kind of building.
5 All the time you assume one air exchange per hour or so. So
6 the nighttime effect of this, if this were to occur, would
7 be diminished or eliminated by the time the children were in
8 school. Secondly, if you look at the slope of that ring
9 road when you go to the east, towards the school, that
10 slope, general slope of that terrain at that point slopes
11 away from the school but towards the mall itself. There's
12 not a slope going the other direction.

13 The fourth point is that much of the year the, the
14 wooded barrier that's between the gas station and Kensington
15 Heights is heavily vegetated; there's leaves on the trees.
16 That's not the kind of surface that would cool and run
17 downhill. It's going to be warm relative to other, other
18 ground. Like, Mount McComas, for example, will be cooler,
19 you know, having that forested area.

20 So my position, taking all these factors into
21 account, even though there's a four percent potential for
22 these things to occur, the basic terrain, hours of the day,
23 and the vegetation situation and the land use situation
24 doesn't support the hypothesis, in my judgment.

25 BY MR. GOECKE:

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1 Q Thank you.

2 A So, at this point, I should go to the terrain.
3 I'm going to go to the terrain study.

4 Q I think we can just move along to Slide 65.

5 A Okay. Are you sure?

6 Q I don't think we need to get into that study right
7 now.

8 MR. GROSSMAN: All right.

9 THE WITNESS: School-siting guidance. This has
10 come up a number of times where statements have been made
11 that the CARB and EPA's siting guidance indicate that
12 schools shouldn't be built within so many feet, 300 feet or
13 1,000 feet, from a gas station. First of all, the report,
14 if you read it carefully, does not say that. It's a
15 guidance document the board has developed to support school
16 systems that are considering building a school, that they
17 can avoid situations that could be a problem for them, and
18 gas stations is, in this example, is something they looked
19 into. It doesn't say you can't build a gas station within
20 any certain number of feet from the school, but it does
21 recommend as a guideline that if you are exceeding their
22 simplistic guidelines they show, that a more site-specific
23 analysis can be done to more site-specifically evaluate the
24 significance of the gas station on the school. That's what
25 it says in both the EPA- and the CARB-siting guidance.

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1 MR. GROSSMAN: And what is their recommended
2 distance or standard?

3 THE WITNESS: CARB is 300 feet, as I recall. If
4 you're within 300 feet of a gas station and 300 feet of a
5 school, they recommend that, you know, a site-specific
6 analysis can be considered as an option to refine the
7 analysis.

8 What they use is called a screening procedure, and
9 a screening procedure is something that we use in modeling
10 to assess if further work is needed. So in a screening
11 procedure, you're going to grossly overstate the impacts.
12 So in this particular screening procedure that was used by
13 CARB and also similar for EPA, they assume a hypothetical
14 location where the wind always blows at one meter per second
15 all the time, really light wind that produces a lot of
16 limited dilution of the atmosphere, and they use a limited
17 dispersion characteristic, which is called E stability.
18 That happens at night. They assumed it happens day and
19 night. They assumed that children are in the school 100
20 percent of the time for a lifetime. They didn't, what they
21 do not consider is what's the prevailing flow from the gas
22 station towards the school, what controls are in place for
23 the gas station. These things are not considered at all.
24 So in the case of Costco, the fact that it has a 99.7
25 percent vent control system is not considered in the

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1 analysis.

2 So if you look at the guidance carefully, they
3 both explicitly state the guidance is overruled by
4 site-specific analysis. That is a universal position in
5 modeling.

6 MR. GROSSMAN: This is going to be more than 300
7 feet from the school. Why is it an issue that you're
8 addressing here? I'm not quite sure.

9 THE WITNESS: Well, it's come up as a point of
10 concern. One of the guidance documents, as I recall, did
11 say 1,000 feet. And so in that context, if I recall
12 correctly, the, the distance from the special exception
13 boundary to the school, I think, was 878 feet; so it's just
14 a little bit less than that. But my point is, if you read
15 the guidance and recognize that -- I mean, Costco spent,
16 it'll be three years this September evaluating air quality
17 effects from this gas station. It certainly has been
18 evaluated in great detail. That would trump any screening
19 assessment. That's just standard procedure.

20 MR. GROSSMAN: Okay.

21 THE WITNESS: This is in my November 2012
22 environmental report, and I don't think I have to read all
23 of these, it's in the record, but the CARB screening
24 document, as an example, says: This methodology should be
25 considered a screening methodology. Gasoline station owners

1 or the district may want to prepare a site-specific risk
2 assessment to more accurately quantify risks if a
3 significant risk is indicated using this methodology. They
4 also say a gasoline station owner may want to more precisely
5 characterize the risks from an individual gasoline station
6 using site-specific data if the risk appears to be
7 significant based upon this screening methodology. Well,
8 that's been done, and so any discussion of the nomograms in
9 these screening documents is now replaced by a site-specific
10 analysis.

11 Now, in some cases, there's been statements made
12 that bring up federal requirements and imply that Costco
13 should have been doing various things to comply, and this
14 slide tries to clarify that Costco's operation is not a
15 federal action. It's not a major project in terms of EPA's
16 designations. EPA has something called EPA's conformity
17 rule, which does apply to federal actions, applies to
18 transportation projects in many cases. It's a regionally
19 significant issue. It doesn't apply to a gas station.

20 Secondly --

21 BY MR. GOECKE:

22 Q I'm sorry. You're just responding to some of the
23 criticism the opposition has made?

24 A Correct. These are points that have come up.

25 Q Yes.

1 A There's a National Environmental Policy Act called
2 NEPA. That applies to major federal actions. It doesn't
3 apply to a gas station being constructed. And, finally, the
4 prevention of significant deterioration is one of the
5 aspects of the Clean Area Act. That, again, does apply to
6 some sources but not to this gas station.

7 Q Okay. Next slide.

8 A And forgive me, Larry, but I did want to bring up
9 a couple of points you've mentioned in the past. I wanted
10 to clarify for the record that this is a gas station, and
11 it's important that it not be characterized as something
12 that it's not. This --

13 Q Your point here is that Mr. Silverman has
14 mischaracterized what the proposed gas station actually is?

15 A Correct. He's referred to it as a gas depot,
16 resembling emissions from a small factory, and also as a
17 regional gasoline distribution center, which would be more
18 like a bulk terminal that processes huge amounts of
19 gasoline. So I just want to clarify for the record that,
20 with all due respect, that terminology doesn't apply in this
21 circumstance.

22 Q Okay.

23 A And my, my final slide. This gets into the issue
24 that the business model of Costco is to combine shopping
25 with purchasing gasoline, and the objective, of course, of

1 that is to, for Costco to make a profit obviously, but the
2 benefit to the County is that does end up with combined
3 trips for shopping and gasoline.

4 The point of this slide is, on the county level,
5 what is this project going to do in terms of the
6 environment? And the circumstance is there'll be more
7 combined trips which would tend to reduce travel, reduce
8 emissions; reduced driving emissions through centralization
9 of shopping; reduced driving for Costco members that now
10 drive outside of Montgomery County to purchase gasoline;
11 and, finally, the fact that there's greater controls in
12 place at Costco as compared to most other gas stations, the
13 fact that it has an Arid Permeator to reduce gasoline
14 marketing emissions by about 40 percent and, secondly, the
15 fact there's an attendant always on duty to respond to
16 spills and to help customers, which I don't see at many gas
17 stations, that a gallon of gasoline sold at Costco will tend
18 to be a cleaner gallon. So the build scenario with Costco
19 in place on a county-level analysis would be an
20 environmental plus.

21 Q So in your professional opinion, on balance, the
22 proposed Costco gas operations were actually beneficial to
23 the community from an environmental perspective?

24 A Correct.

25 MS. ROSENFELD: Objection. That was a leading

1 question.

2 MR. GROSSMAN: It was leading, but he actually --

3 MS. ROSENFELD: Ah, come on, ask him a question.

4 MR. GROSSMAN: No. He didn't assume something
5 that the witness hadn't already stated. He just summarized
6 what the witness stated in his prior two sentences. So I
7 don't think that's a fair objection in this particular case.

8 MS. CORDRY: One quick question. Did I hear you
9 say 40 percent as opposed to 99.7 percent?

10 THE WITNESS: I was referring to, I was referring
11 to 40 percent reduction in gasoline. If I remember
12 correctly, I'm speaking off the top of my head here, but the
13 venting emissions account for approximately 40 percent. If
14 we didn't have it in there, it would be 40 percent higher --

15 MS. CORDRY: Okay. So not 99 point --

16 THE WITNESS: -- and we can look at the record
17 later and get the exact numbers, but it reduces gasoline
18 marketing by approximately 40 percent.

19 MS. CORDRY: Okay. But is that slide correct that
20 99.7 percent versus a standard gas station, or was it, it
21 just reduces 99.7 percent of the emissions?

22 THE WITNESS: Just the vent emissions. I'm not
23 saying it reduces the gasoline marketing emissions by 99.7.
24 I'm saying it reduces the vent component of gasoline
25 marketing.

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1 MS. CORDRY: Okay. But what I'm asking you, is
2 that slide --
3 MR. GROSSMAN: Well, no, no. You're going too
4 far --
5 MS. CORDRY: Okay.
6 MR. GROSSMAN: -- in what's not a
7 cross-examination.
8 MS. CORDRY: Okay. Well, I was just trying to
9 understand what --
10 MR. GROSSMAN: No, no, but you've --
11 MS. CORDRY: Okay. All right. We'll come back to
12 that.
13 MR. GROSSMAN: -- you've made the point and he's
14 clarified it, and so --
15 MS. CORDRY: Well, he hasn't, but we'll get back
16 to it.
17 MR. GROSSMAN: I mean, anything else you can ask
18 on cross-examination.
19 BY MR. GOECKE:
20 Q Okay. So that concludes your PowerPoint
21 presentation. Just a few questions to revisit your
22 background. In the course of your career, your clients, are
23 they always Costco, are they always industry or commercial
24 clients?
25 A No, they're not.

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1 Q Give us an example of some other types of
2 organizations or entities you've worked for.
3 A We have worked for many chemical companies as well
4 as industrial operations, ranging from, you know, lead
5 smelter to power plants and beyond, but we also have worked
6 for the Sierra Club, Piedmont Environmental Council, Coastal
7 Conservation League, Allegheny County, Pennsylvania, which
8 is Pittsburgh, U.S. EPA, the U.S. Trade and Development
9 Agency and the work we did in Indonesia recently, and the
10 World Bank.
11 We've worked for a variety of clients, and in
12 terms of these kind of projects, we, this is the first
13 community-type project. Like I say, I've worked for -- of
14 this nature -- I've worked for industry, and the last three
15 I worked for the community. So I try not to get in any
16 particular camp. I try my best, honestly, to be objective
17 and just to call the balls and strikes as I see them, which
18 is what I've done in this matter as well.
19 Q So in this situation, are you just telling Costco
20 what they want to hear?
21 MR. GROSSMAN: Well, no. That's, I think that's
22 gilding the lily a little too much. He's already testified
23 he's tried to call the balls and strikes as he sees them.
24 MR. GOECKE: Okay. I think that may conclude his
25 testimony. I'd like the opportunity just to review my notes

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1 at lunch. I might have a few follow-up questions after
2 lunch, but otherwise I think we're done.
3 MR. GROSSMAN: Fair enough. All right. Well, it
4 sounds like we're at a good breaking time for lunch. It's
5 five to 1:00. Shall we come back at 1:45?
6 MR. GOECKE: Thank you.
7 MS. HARRIS: Thank you.
8 MR. GROSSMAN: That'll be the time.
9 (Whereupon, at 12:55 p.m., a luncheon recess was
10 taken.).
11 MR. GROSSMAN: All right. Back on the record, and
12 before we begin, you know, I realize, Mr. Goecke, I didn't
13 mean to discourage you if you wanted to have the witness go
14 into the terrain flow study he did. I didn't mean to
15 discourage you if that's something you wanted to do. So I
16 just wanted to you let you know that.
17 MR. GOECKE: No, I appreciate that, and we had
18 planned to initially, but I think that we've covered it.
19 It's part of the record, and if we need to get into that
20 more --
21 MR. GROSSMAN: Well, none of the exhibits have
22 been technically admitted yet. So I --
23 MR. GOECKE: True.
24 MR. GROSSMAN: -- I just wanted you to understand
25 that in factoring it all.

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1 MR. GOECKE: True.
2 MR. GROSSMAN: Okay.
3 MR. GOECKE: But, no, again, I appreciate that,
4 but I think we're ready to move on, and I have no further
5 questions for this witness.
6 MR. GROSSMAN: Okay. Is there any
7 cross-examination?
8 MR. SILVERMAN: Yes.
9 MS. ROSENFELD: A little bit.
10 MR. GROSSMAN: And who wishes to proceed first?
11 MS. ROSENFELD: Mr. Sullivan said he'll start.
12 MR. GROSSMAN: Mr. Silverman?
13 MR. SILVERMAN: Yes. Yes.
14 MR. GROSSMAN: All right. You may proceed.
15 CROSS-EXAMINATION
16 BY MR. SILVERMAN:
17 Q Good afternoon, Mr. Sullivan, nice to see you
18 again.
19 A Good afternoon.
20 MS. ROSENFELD: Silverman.
21 BY MR. SILVERMAN:
22 Q Mr. Sullivan, you've submitted quite a number of
23 reports, and I just want to review them, and tell me if I've
24 got them all. In December 20th, 2011, you did the report,
25 some 400-and-some pages long --

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1 MR. GROSSMAN: What exhibit number are you talking
2 about?
3 MR. SILVERMAN: I don't know, I don't know if this
4 is an exhibit. Did you folks introduce that report?
5 MR. GOECKE: All the reports we submitted are on
6 the exhibit list. So has, if you're asking, has he prepared
7 reports --
8 MR. SILVERMAN: I didn't see it on the list.
9 MR. GROSSMAN: So I don't know what report you're
10 talking about. So --
11 MR. SILVERMAN: Well, I think Mr. Sullivan does,
12 and maybe he could tell us about it, but I'm just, I'm just
13 trying to get -- there's a lot of reports, and they started
14 in December 20th, 2011.
15 MR. GROSSMAN: Do you know what report he, that
16 Mr. Silverman --
17 BY MR. SILVERMAN:
18 Q Is that correct?
19 A I don't remember the dates of the reports,
20 Mr. Silverman, but the most recent report that would, that
21 would supersede the preceding reports would be the one in
22 November of 2012.
23 Q I see, but so, but you did --
24 A And the supplements too.
25 Q -- you did a report on December 2011?

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1 MR. GROSSMAN: Is this in another, in the previous
2 case, you mean?
3 MR. SILVERMAN: Yes. Well, it's --
4 BY MR. SILVERMAN:
5 Q Is it not correct, Mr. Sullivan, that that report
6 reflects your measurements at Sterling on which you rely and
7 relied consistently?
8 A I don't remember the dates of that study. We did
9 do a study that discussed some monitoring conducted at
10 Sterling.
11 Q Right. And on the 23rd of March, 2012, did you
12 submit another report?
13 A Again, I don't remember the dates. We have
14 submitted a number of reports, that's true.
15 Q And on July 2nd, 2012 --
16 MR. GROSSMAN: He says he doesn't remember the
17 dates. So what's the point in asking him over and over
18 again about dating. If you have a document you want him to
19 identify as some report that he has submitted, then you
20 certainly may show it to him, but in fairness to the
21 witness, he said he doesn't recall the dates. How you
22 identify it by an exhibit number or show him a report you're
23 talking about --
24 MR. SILVERMAN: Right.
25 MR. GROSSMAN: -- and then he can say if it's

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1 something he submitted.
2 BY MR. SILVERMAN:
3 Q So I don't have these with me, but would you, is
4 it correct to say you did three significant reports for the
5 previous application?
6 MR. GROSSMAN: Well, where are we going with this,
7 Mr. Silverman? What's the, what is the question relating to
8 previous, the previous application? I want to know --
9 MR. SILVERMAN: I am --
10 MR. GROSSMAN: -- are they in my record now that,
11 that I'm looking at, or is there something that's been
12 submitted in reference to this application, because I don't
13 know what you're talking about. So it's difficult for me to
14 be able to deal with your questions.
15 MR. SILVERMAN: Well, my reason for asking about
16 these various, the previous statements is to see, is to test
17 their consistency or lack of consistency.
18 MR. GROSSMAN: And it's perfectly acceptable to
19 test a witness in terms of prior inconsistent statements, if
20 that's your object --
21 MR. SILVERMAN: Right. Right.
22 MR. GROSSMAN: -- but you have to be able to show
23 him --
24 MR. SILVERMAN: Gotcha.
25 MR. GROSSMAN: -- the statement that you're

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1 talking about, in fairness, and you're identifying it in a
2 way that he cannot recall the particular date.
3 MR. SILVERMAN: Okay.
4 MR. GROSSMAN: So I don't want to restrict your
5 cross-examination, but I want to make sure we're all playing
6 on a level field here.
7 MR. SILVERMAN: Fair enough. Fair enough.
8 BY MR. SILVERMAN:
9 Q With regard to exhibits submitted in this case,
10 you did a report in November, a report in December, and a
11 report in January, is that correct?
12 A November 2012 --
13 Q Yes.
14 A -- December 2012, and January 2013 --
15 Q Yes.
16 A -- that's correct. Two of those reports are the
17 same, in other words, the report that was submitted in
18 December, and the other report that replaced that was
19 submitted on January 16th of 2013. There's really two
20 reports.
21 Q Two reports. And can you tell me -- two of them
22 are the same, one is different -- can you tell me why you
23 submitted the two reports, three, but two -- when you say
24 they're the same, the two last reports are identical?
25 A What I said was the December 2012 and January 2013

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1 reports were the same report. So the 2013 version replaced
2 the December version. It was an update of that report.
3 Q Okay. And the January 16th, is that a different,
4 is that a -- what's the difference between that one and the
5 previous two?
6 A The November of 2012 report was our main
7 environmental report, stands by itself.
8 Q Right.
9 A We had met with staff at Parks and Planning in
10 December and January, and the nature of those meetings was
11 that they had requested that we present the data in a
12 different light that was more consistent with how they
13 usually look at applications like this. So they wanted to
14 show -- show us the existing sources, show us the sources in
15 the pipeline right now, which at that point was Dick's and
16 Costco, and then show us the incremental, which is the
17 Costco gas station.
18 So we did those figures as they asked; we showed
19 the modified version, as I recall, of the background
20 treatment that we also discussed in meetings; and finally,
21 in those reports we clarified a small error in one of the
22 terms in the, some of those tables that we showed in our
23 reports, and we made that clarification.
24 Q Okay, good. Looking at your résumé, you have
25 quite a lot of publications. You got one Review of Airborne

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1 Emissions from Agricultural Fumigants: Design and
2 Uncertainty Considerations for the Use of the Integrated
3 Horizontal Flux Method. Do you remember that?
4 MR. GROSSMAN: What page of the résumé?
5 MR. SILVERMAN: This is page 9.
6 MR. GROSSMAN: I mean, I presume that -- I'm going
7 to let you do it to some extent, even though it sounds more
8 like a voir dire question --
9 MR. SILVERMAN: No, no, I'm not --
10 MR. GROSSMAN: -- in terms of his expertise, but
11 they actually asked him a question after that regarding his
12 past experience. So I'm going to let you go in, to some
13 extent, to this. What page is this?
14 MR. SILVERMAN: Page 9, and I think it's 15
15 Exhibit.
16 MR. GROSSMAN: And that's Exhibit 17 --
17 MR. SILVERMAN: 17, right.
18 MR. GROSSMAN: -- F as in Frank. Okay.
19 BY MR. SILVERMAN:
20 Q Yes, I just, I don't, I'm not questioning your
21 qualifications. I just want to ask you the meaning of a
22 term you used here.
23 MR. GROSSMAN: Okay.
24 BY MR. SILVERMAN:
25 Q Uncertainty considerations, what's that mean?

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1 A We -- that report, I believe, was published in
2 2012. Can you give me the date, please?
3 Q Well, it says, here it says: in press August
4 10th, 2010, Journal of Environmental Quality.
5 A Right. That was --
6 Q But I just, I'm just questioning the term
7 uncertainty considerations?
8 A That study was describing -- a report, rather, a
9 paper -- was describing work that we do in computing
10 emission rates. It's an agricultural pesticide application.
11 So it's doing the source characterization such as we've done
12 here for power plants, no, I'm sorry, for gas stations,
13 where we're using emission rates. Well, we developed
14 emission rates for pesticides in response to EPA
15 registration requirements, and that particular paper
16 discussed the fact that when you use the method, the
17 integrated horizontal flux method to compute flux -- flux
18 means the emissions rates in the atmosphere -- that when you
19 compute the emission rates, that there's a 95 percentile
20 confidence bound around those emission rates, and we
21 described statistically how to do that as part of that
22 paper.
23 Q So by uncertainty, you mean -- can you say in sort
24 of layman's terms what you mean by that?
25 A Well, if you have a best estimate of what your

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1 emission rate is in this sense, let's say you say it's 10,
2 well, you're saying, well, based upon the statistical
3 analysis of the underlying data, that could range from, you
4 know, five to 15 let's say, and the, the intent of an
5 uncertainty analysis is to bound that based upon the
6 standard error of the calculation procedure.
7 Q Do you recall at the, at the Planning Board
8 hearing Dr. Bryce, one of the health experts from Johns
9 Hopkins, saying that the type of modeling -- the accuracy of
10 the type of modeling you do can vary by a factor of two. Do
11 you recall him saying that?
12 A I think I recall that, yes.
13 Q And do you recall that you agreed with that?
14 A Well, I don't remember agreeing, but I can tell
15 you what -- I don't remember agreeing to that. I'm not
16 saying I didn't.
17 Q Do you agree to it? Do you agree that that's a
18 fair statement, that the type of modeling -- let me refine
19 it -- the type of modeling that you do, even if done
20 correctly, could vary by a factor of two?
21 MR. GROSSMAN: The type of modeling he's done in
22 this case, or the type of modeling referenced in the
23 publication that you had mentioned?
24 MR. SILVERMAN: No, no, not that publication. I
25 just wanted to get to the word uncertainty. I'm sorry. I

1 don't mean to distract you.
 2 MR. GROSSMAN: Okay. So we're back to --
 3 MR. SILVERMAN: Yes, right.
 4 MR. GROSSMAN: So it could be very -- the question
 5 is, if I understand correctly, whether it could vary by a
 6 factor of two? Is that --
 7 MR. SILVERMAN: Yes.
 8 MR. GROSSMAN: Okay.
 9 THE WITNESS: Well, if you're referring to
 10 modeling of air pollution as opposed to other ways of
 11 modeling deposition and other treatments, air pollution in
 12 my experience, the studies that I've done, I mean, I've done
 13 model-performance testing at the urban scale for EPA, and on
 14 a long-term basis, we, I've typically found within a factor
 15 of 50 percent. In some cases we've seen a factor of two,
 16 and EPA takes the position, in the range of 50 percent to a
 17 factor of two, plus or minus, in terms of uncertainty.
 18 That's my experience.
 19 BY MR. SILVERMAN:
 20 Q Did you state that anywhere in your written
 21 reports?
 22 A Did I state an uncertainty range?
 23 Q Yes.
 24 A I did not.
 25 Q I'd like to ask you about standards. I think the

1 issue which was raised by the Hearing Examiner is, how do
 2 you make judgments absent standards? Is there a, is there a
 3 standard for volatile organic compounds? Is there a
 4 National Ambient Air Quality Standard?
 5 A There is a standard. It's designed to support
 6 ozone analysis. So there is a standard, but in this case,
 7 we were referring to VOCs in the context of risk assessment.
 8 Q Right. So there's no, there's no air quality
 9 standard for benzene, for example, per se?
 10 A No, there's not, not at the national level.
 11 Q So does that mean you can't make intelligent
 12 judgments about benzene impacts at different levels?
 13 A What do you mean by make intelligent judgments?
 14 Q I mean, the fact that there's not a particular
 15 National Ambient Air Quality Standard, that doesn't mean
 16 that you're precluded from using other methods to make
 17 decisions as to whether something is safe or not safe, is
 18 that correct?
 19 A Well, an analyst could decide to do whatever he or
 20 she chose to do. I'm not sure I understand your question.
 21 MR. GROSSMAN: Well, I think I do. So let me ask
 22 you to follow up on that. The suggestion here is, let's
 23 take benzene, there's no national standard for it. Is it
 24 appropriate to use some other methodology, other than this
 25 standard, to assess potential effects on health?

1 THE WITNESS: Well, what, yes, what we did is -- I
 2 think maybe that's in response to your question -- we looked
 3 at benzene, which is one of the four pollutants that's
 4 covered by a cancer potency score in EPA's IRIS database.
 5 So there's no standard per se, but we looked at the cancer
 6 risk assessment within the community based upon EPA's cancer
 7 potency score.
 8 BY MR. SILVERMAN:
 9 Q So it's possible to do a cancer risk assessment
 10 even absent a standard?
 11 A Certainly.
 12 Q And to rely on it? It's prudent to rely on such
 13 an assessment?
 14 A Who's going to rely upon it? I don't, I'm not
 15 following your question.
 16 Q I mean, a risk assessment on a particular
 17 pollutant could provide the decision maker with reasonable
 18 grounds to make a decision?
 19 A Well, I would think so. We have done a risk
 20 assessment in that context that's in the public record.
 21 Q Right. And is there a, is there a standard for
 22 ultrafine particulates?
 23 A No.
 24 Q Would it be possible to do a risk assessment on
 25 those?

1 A At this point in time, I don't, I don't know of
 2 any EPA or other agencies having a position on what's a safe
 3 threshold for that. So my answer is I don't think that
 4 would be possible to do at this point in time.
 5 Q Yes. When you talk about the standards, you say
 6 they, you said many times they have a wide margin of safety.
 7 Now --
 8 A I didn't say that.
 9 Q Pardon?
 10 A I didn't say a wide -- I said they have, the
 11 administrator has the responsibility to maintain a
 12 reasonable margin of safety.
 13 Q A reasonable margin of safety. And to take
 14 account of vulnerable populations?
 15 A Correct.
 16 Q So two years ago what was the standard for, for PM
 17 2.5 particulates? What was the standard?
 18 A Which averaging time?
 19 Q Let's say the annual standard.
 20 A It was 15 micrograms per cubic meter.
 21 Q Now, did the administrator provide an adequate
 22 margin of safety? Did he consider at-risk populations?
 23 MR. GROSSMAN: What administrator?
 24 MR. SILVERMAN: Administrator of the EPA.
 25 MR. GROSSMAN: Okay.

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1 THE WITNESS: Did they provide an adequate margin
2 of safety?
3 BY MR. SILVERMAN:
4 Q Yes.
5 A Well, I'm not, I have no basis of judging --
6 you're questioning it between 15 and 12. If they're at 15,
7 it was an adequate margin. I don't know the answer to that
8 question.
9 Q So you think the administrator, in setting the 15
10 standard previously, that he was -- was he following a
11 different law or rule in setting that standard?
12 A No. He was following the same, the same rule, the
13 issue being, if the, if the standard now is 12 and the
14 standard before was 15, does that mean that the 15 was
15 unprotective? I mean, that, that does require a health
16 person to answer that question. What I'm responding to in
17 my testimony here was that I can review air quality relative
18 to established thresholds, established standards, and I
19 can't say if the difference between 15 to 12, if we had an
20 adequate margin of safety or not. I don't know.
21 Q Does the 12 standard have an adequate margin of
22 safety? Does it protect vulnerable populations?
23 A It certainly does in the opinion of the EPA
24 administrator.
25 Q And isn't it that same thing true of the 15

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1 standard, the previous one?
2 A They both had the judgment that those levels were
3 protective of public health.
4 Q When was the standard changed from 15 to 12?
5 A It was changed in December of 2012.
6 Q During the pendency of this case. So do you think
7 there's any possibility that a year or two from now they'll
8 change it again?
9 A I'd have to speculate. I really don't know when
10 they'll change it again or if they'll change it again.
11 Q Are there not studies underway, looking at that
12 standard, questioning that standard?
13 A There are health studies that happen, of course,
14 all the time. I don't know if the studies are questioning
15 the standard.
16 Q Yes. And have you reviewed -- you've mentioned
17 several times the Science Advisory Board documents and so
18 forth that the administrator relies on in making these
19 standard judgments -- have you --
20 A When you say relied upon, what do you mean?
21 Q You have, maybe I misheard you, but --
22 MR. ADELMAN: Clean Air Science Advisory
23 Committee.
24 BY MR. SILVERMAN:
25 Q Yes, the Clean, I'm sorry, the -- thank you. You

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1 have referenced the Clean Air Science Advisory Committee a
2 number of times. So have you actually reviewed their
3 reports on the standards?
4 A I have reviewed reports by the Clean Air Science
5 Advisory Committee.
6 Q Is there anything in those reports that would,
7 that might lead one to believe that there's a possibility
8 the standard could be ratcheted down further?
9 MR. GOECKE: Objection, calls for speculation.
10 MR. GROSSMAN: Well --
11 MR. SILVERMAN: No. It's just either he read it
12 or he didn't.
13 MR. GROSSMAN: -- he's asking if there's anything
14 in the reports. He's not asking if, for him to speculate on
15 it. He's asking if there's anything in the reports. He can
16 answer that. Overruled.
17 THE WITNESS: I don't, I don't recall statements
18 in there that -- I know that the CASAC committee gave a
19 range to the administrator. The administrator picked a
20 number within that range, which ended up being 12, and in
21 the judgment of the administrator, that was the appropriate
22 level. I don't, I don't know if that means it'll be
23 ratcheted in the future or not. That's what I've read.
24 BY MR. SILVERMAN:
25 Q And what was the range? Do you know?

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1 A I'm going to recall, I think it was 11 to 13.
2 Q Eleven to 13. I think you said it would be unfair
3 and -- we had a little philosophical colloquy -- it would be
4 unfair and arbitrary to subject a source to meeting a
5 standard below the official standard. Do you think it would
6 be unfair and arbitrary if citizens -- if this project were
7 approved and six months later the citizens learned that the
8 standards were lowered to 11 or 10?
9 A Do I think it would be arbitrary to, if Montgomery
10 County had its own standard of being 10 or 11 --
11 Q No, if --
12 A -- for all sources or this source?
13 Q No. I'm just saying, I'm just saying, should,
14 should the standard change in the future, as it has in the
15 past, and this project were approved on the basis of that
16 standard and your measurements, would it be -- and then it
17 turned out in a year or two that the standard was lowered,
18 do you think that would be unfair to the people who have to
19 breathe the air? Or does the unfairness only go to the, to
20 the applicants?
21 A Would it be unfair for people to breathe the air?
22 I don't, I really don't follow your question.
23 Q You --
24 MR. GROSSMAN: Well, I think he's --
25 MR. SILVERMAN: Yes.

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1 MR. GROSSMAN: -- he's setting up a comparison
2 between the suggestion you made that it wouldn't be fair to
3 apply some measure that's not an accepted standard and he's
4 asking, well, if what is now the accepted standard were to
5 be lowered later, would that be unfair to the people if you
6 used the previous higher standard. I think that's his
7 question. Is that, is that a fair characterization of it,
8 Mr. Silverman?
9 MR. SILVERMAN: That's a fair characterization,
10 sir.
11 THE WITNESS: I don't think it would be. I think
12 the fairness has to go both ways, and if the State of
13 Maryland were to choose, for example, to have a more
14 restrictive standard than the rest of the country, they can
15 do so, it's allowed by the Clean Air Act, but it would have
16 to be applied to all facilities in an equitable way to be
17 fair. So, I mean, again, I think fairness has to go both
18 ways. An undefined standard is inherently unfair.
19 BY MR. SILVERMAN:
20 Q Would it be, lead to misleading scientific results
21 if, if a, if a risk assessment was done on, on a pollutant
22 that has a standard and would that be an improper procedure,
23 or should we just give up risk assessment when we have a
24 standard, we don't have to do risk assessment?
25 A Well, risk assessment in this context is for

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1 things that don't have a standard. That was a cancer risk
2 assessment, which was done. If there is a standard, I would
3 expect it would be more prudent to follow the standard that
4 exists.
5 Q So would it be scientifically improper to do a
6 risk assessment? I mean, the Hearing Examiner said how can
7 I make a decision that doesn't follow the standards. There
8 are other ways to come to rational decisions --
9 MR. GROSSMAN: Well, now you're --
10 BY MR. SILVERMAN:
11 Q -- about health.
12 MR. SILVERMAN: I hope I didn't mischaracterize
13 you.
14 MR. GROSSMAN: I think you've asked two different,
15 two different questions, would it -- and you asked
16 initially, the implication was, is it improper for there to
17 be scientific analysis of a risk assessment even if there is
18 a standard, which is a little bit different from the
19 follow-up that you --
20 MR. SILVERMAN: I withdraw the follow-up. We'll
21 talk about that later.
22 BY MR. SILVERMAN:
23 Q But would there be anything wrong with doing that?
24 I know it's the practice to go with the standards because
25 you save money and time, but is there anything wrong with

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1 doing a risk assessment?
2 MR. GROSSMAN: To an extent, I follow why the
3 witness has a little problem. When you say anything wrong
4 with it, I'm not sure that that is sufficiently honed in
5 terms of what you, what you mean by anything wrong. Do you
6 mean is it wrong for the fact finder -- in this case, myself
7 -- to make an assessment based on it? Do you mean is it
8 wrong for scientists to study something? I mean --
9 MR. SILVERMAN: Thank you.
10 MR. GROSSMAN: -- I'm not sure what you're getting
11 at.
12 MR. SILVERMAN: Thank you. Let me clarify. I --
13 MR. GROSSMAN: Okay.
14 MR. SILVERMAN: -- appreciate that very much.
15 These are difficult things and --
16 MR. GROSSMAN: Yes.
17 MR. SILVERMAN: -- I'm struggling.
18 MR. GROSSMAN: Thought-provoking
19 cross-examination.
20 MR. SILVERMAN: Yes.
21 BY MR. SILVERMAN:
22 Q If a fact finder decided that he would look beyond
23 the standard, perhaps because of the rapid changes in the
24 field, and engage in some sort of risk assessment, would
25 that be, would you consider that, would that be an

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1 unacceptable or irrational exercise?
2 A Well, that presumes that the finder of fact -- in
3 this case, Mr. Grossman -- either has a committee of
4 scientists or he has a background himself to read
5 toxicological and epidemiological studies and form a
6 conclusion that would be in conflict with EPA's, and if the
7 State of Maryland -- I mean, if that was at his disposal or
8 any decision maker, I could see them doing so, but absent
9 that, I don't see how a local jurisdiction would have the
10 scientific staff available, such as EPA has, to, to make
11 that kind of a judgment.
12 Q Well, he might have the benefit of expert
13 testimony from public health experts. Do you think that
14 might help him?
15 A That would be up to the decision maker to make
16 that call. I won't prejudge that.
17 Q Okay. And if the standard should drop and it's
18 found that the station causes a violation of the standard,
19 should Costco still be allowed to operate?
20 A Which standard are we talking about?
21 Q Any one of the standards that we're talking about.
22 Let's say PM 2.5 because that's a good one. If -- what
23 happens if the Hearing Examiner or the Board adopts your
24 view that this is a perfectly safe facility and it turns out
25 a few years later that it's not? Should there be a

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1 consequence to that or we just live with it?
2 MR. GROSSMAN: You know, that's kind of an
3 imponderable that goes beyond what is really going to be
4 before me. I mean, if in fact the Board of Appeals were to
5 approve this application and later on there was some
6 evidence that would come in, this would be before the Board
7 of Appeals or some other body to review it based on that, if
8 it were raised. It's not before me now. So let's try to
9 stick with what's before me now.
10 MR. SILVERMAN: Thank you, sir.
11 BY MR. SILVERMAN:
12 Q You said you did a risk assessment, a cancer risk
13 assessment, or was it benzene or all volatile organic
14 chemicals?
15 A We did a risk assessment for all pollutants,
16 organic pollutants emitted by gasoline marketing operations
17 and tailpipe exhaust, all those species of VOCs that had an
18 IRIS cancer potency score.
19 Q So did you do a risk assessment for non-cancer
20 impacts?
21 A We did not.
22 Q Do you know if there are non-cancer impacts for
23 VOCs?
24 A Non-cancer effects are usually addressed through
25 thresholds and are not as commonly addressed as carcinogenic

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1 end points. I had no reason to expect any problems with
2 non-cancer health effect thresholds in this matter.
3 Q You have no reason to -- all right. You
4 referenced President Obama is trying to increase the
5 regulation of fuels to lower emissions. Have you examined
6 the Federal Register proposal about doing that?
7 A I've read briefly about it. I know it does
8 involve fuels as well as tailpipe exhaust. It won't take
9 effect until in the future, and so I can't, I can't claim
10 that I've read it in detail, no.
11 Q Well, I'm sure you know that when a rule is
12 proposed, it's common for the administrator of EPA to
13 publish a great deal of information about the subject,
14 including health information. Is that correct, or do you
15 agree with that?
16 A That would usually be the case, yeah.
17 Q Okay.
18 MR. SILVERMAN: Well, I don't quite know how to do
19 this. I've got a Federal Register notice of May 21st, 2013,
20 how rapidly this field was changing, quite voluminous, about
21 this new proposal of the President's and that is, if I give
22 you --
23 MR. GROSSMAN: Identify this again, please, sir.
24 MR. SILVERMAN: Yes. It's Federal Register,
25 Volume 78, Tuesday, May 21st, 2013.

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1 MR. GROSSMAN: May?
2 MR. SILVERMAN: 21st, 2013.
3 MR. GROSSMAN: Okay.
4 MR. SILVERMAN: And it starts on page 29815.
5 MR. GROSSMAN: 29815.
6 MR. SILVERMAN: And it's the --
7 MR. GROSSMAN: This is regarding a proposed --
8 MR. SILVERMAN: And it is called --
9 MR. GROSSMAN: -- proposed regulation?
10 MR. SILVERMAN: -- Control of Air Pollution for
11 Motor Vehicles: Tier 3 Motor Vehicles Emission of Fuel
12 Standards; Proposed Rule.
13 MR. GROSSMAN: Okay. And what's the relevance
14 here?
15 MR. SILVERMAN: Well, the question I asked before
16 was the discussion of health impacts, and I wonder if I
17 could, or if you could read some language in here that
18 discusses non-cancer health impacts of volatile organic
19 chemicals.
20 MR. GOECKE: Mr. Silverman, do you have copies for
21 everybody of this?
22 MR. SILVERMAN: I'm afraid I don't. My budget for
23 copying is very limited, but I will certainly e-mail them to
24 you.
25 MR. GROSSMAN: Well, how long is the item you want

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1 read?
2 MR. SILVERMAN: The item that I want to point him,
3 and there's a lot of other stuff, but the one I want to show
4 is just a short paragraph.
5 MR. GROSSMAN: Okay. Let them read it right now.
6 Show it to --
7 MR. SILVERMAN: Okay. I've got it, I've got it
8 lined.
9 MR. GROSSMAN: -- show it to opposing counsel --
10 MR. SILVERMAN: Yes. Yes.
11 MR. GROSSMAN: -- and we'll give them a couple of
12 minutes to take a look at it.
13 MR. GOECKE: We're struggling, Mr. Grossman,
14 because Mr. Silverman's just handed us a document that's
15 about 40 pages long and he wants to cite one paragraph
16 that's being taken out of context. We haven't had a chance
17 to look at this before.
18 MR. GROSSMAN: I understand. I certainly don't
19 like these proceedings to be a game of gotcha. It is true
20 that on cross-examination you are allowed to use a document
21 that hasn't been previously produced. On the other hand, I
22 think it's much more effective, in terms of getting
23 intelligent answers to questions, if we all know in advance
24 what is going to be the area of the inquiry. If you drop a
25 document such as this, which is how many pages long?

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1 MR. GOECKE: Thirty, 40.
2 MR. GROSSMAN: On a proposed rule that just came
3 out, it does put the other side in a disadvantage --
4 MS. ROSENFELD: Well --
5 MR. GROSSMAN: -- and I would prefer to avoid
6 that.
7 MR. SILVERMAN: Well, the witness referred to the
8 proposed rule.
9 MS. ROSENFELD: If I --
10 MR. GROSSMAN: Pardon me?
11 MR. SILVERMAN: The witness referred to the
12 proposed rule.
13 MS. ROSENFELD: Mr. Sullivan did talk about this
14 proposed rule as supporting some of his conclusions. We're
15 happy to provide a copy of this document --
16 MR. GROSSMAN: Okay.
17 MS. ROSENFELD: -- and call him back after they've
18 all had a chance to review it.
19 MR. GROSSMAN: I didn't say I was precluding it.
20 What I said was I think the best way for these things --
21 I've insisted that the applicant share things in advance
22 with everybody to avoid any of these games of gotcha on
23 either side, and I think that the most civilized and the
24 most productive way to proceed in any of these things is for
25 everybody to know what's on the table. So if we can avoid

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1 this in the future. I'm not saying we're not going to allow
2 it, but I'm going to give them some time to look at it.
3 MR. SILVERMAN: Yes, I certainly agree with that,
4 and I have tried to be quite open within the course of it,
5 but this was May 23rd and there's a lot of reading in this
6 case. I just got to it.
7 MR. GROSSMAN: All right. Okay. Counsel has, for
8 the applicant, has just handed it back to you. So you
9 may --
10 MR. SILVERMAN: May I show the paragraph to the
11 witness?
12 MR. GROSSMAN: Yes, absolutely. Be careful not to
13 trip on any wires, if there are any --
14 MR. SILVERMAN: Yes, thank you.
15 BY MR. SILVERMAN:
16 Q Could you read the paragraph that I've put 20 by?
17 A Just for the record, I'd like to indicate that
18 I'll read the paragraph as requested but, in order for me to
19 make any comment on this document, I'll have to read the
20 entire document and study it. So I'm not going to make, I
21 cannot make any comment --
22 MR. GROSSMAN: All right. Right now I think he's
23 just asking you to read it. So --
24 THE WITNESS: A number --
25 MR. GROSSMAN: Do you want him to read it out

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1 loud, or do you want --
2 MS. ROSENFELD: Yes.
3 MR. SILVERMAN: No, I wish he'd read it out loud,
4 yes.
5 MR. GROSSMAN: Okay.
6 THE WITNESS: A number of adverse non-cancer
7 health effects including blood disorders, such as
8 pre-leukemia and aplastic anemia, have also been associated
9 with long-term exposure to benzene. The most sensitive
10 non-cancer effect observed in humans, based on current data,
11 is the depression of the absolute lymphocyte count in blood.
12 EPA's inhalation reference concentration, RfC, for benzene
13 is 30 micrograms per cubic meter. The RfC is based on
14 suppressed absolute lymphocyte counts seen in humans under
15 occupational exposure conditions. In addition, recent work,
16 including studies sponsored by the Health Effects Institute,
17 HEI, provides evidence that biochemical responses are
18 occurring at lower levels of benzene exposure than
19 previously known. That's the end of the paragraph.
20 BY MR. SILVERMAN:
21 Q Thank you. So keeping your -- having that in
22 mind, do you think, do you think it would be prudent, given
23 that sort of information -- and there's lots of it here, I
24 just picked one paragraph -- to do a non-cancer risk
25 assessment?

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1 A As indicated, if I'm going to comment on that
2 document, I'm going to review it first.
3 Q All right. I hope we can --
4 MR. GROSSMAN: I think that's fair.
5 MR. SILVERMAN: That's fair enough, very good.
6 BY MR. SILVERMAN:
7 Q I think in your, your testimony you said -- I wish
8 I had the exact words -- you said that, not today, but in a
9 previous meeting, I guess on Monday, that, that EPA doesn't
10 regard gas stations as a big risk factor and they don't
11 regulate it.
12 A I didn't say that.
13 Q Well, what did you say about EPA's attitude
14 towards gasoline stations?
15 A I said that EPA regulates gas stations on a
16 source-category basis, through engineering controls --
17 Q Through --
18 A -- and that they don't require permits in terms of
19 modeling and evaluation of, of air quality relative to
20 standards on a gasoline station-by-gasoline station basis.
21 Q And the way in which EPA regulates gas stations,
22 it's the same for all gas stations, right?
23 A Well, the -- I don't know that it has any
24 variability by size of the gas station, but the Stage
25 I/Stage II and, you know, the various requirements they

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1 have, as far as I know, are pretty standardized.
2 Q But the fact that EPA does not regulate particular
3 gas stations, do you draw any inference from that that EPA
4 thinks there's not a problem?
5 A I'll draw the inference that EPA does not consider
6 a gas station to be a major source that requires a
7 site-specific air quality analysis on a gas station-by-gas
8 station basis.
9 Q Because, if they did, they'd require that?
10 A Well, either they or maybe the Maryland Department
11 of the Environment would have such a requirement.
12 Q Does EPA have the authority to require a
13 site-by-site assessment of gas stations? Do they have the
14 legal authority?
15 A I'm not -- I don't know the answer. I mean, right
16 now in the State of Maryland, Maryland Department of the
17 Environment has primary responsibility for regulating air
18 quality.
19 Q And does the Maryland Department of Environment
20 have the authority to do individual assessments of
21 individual stations?
22 A I don't know the answer to that question.
23 Q Well, perhaps we can help answer that one later.
24 MR. SILVERMAN: Excuse me, sir. I just, I tend to
25 forget things if I don't make a note.

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1 MR. GROSSMAN: Join the club.
2 BY MR. SILVERMAN:
3 Q Let's see. I wanted to ask you about the Arid
4 Permeator; put a lot of stock in the Arid Permeator. Are
5 you an expert on pollution abatement technology?
6 A I, I certainly use abatement technology in my
7 modeling. I'm not an engineer and I don't set what the
8 percent control is for any particular piece of equipment. I
9 use that data.
10 Q And the data that you used in this case, where did
11 it come from?
12 A The manufacturer certifies the equipment to be
13 99.27 percent effective in control and that came from the
14 manufacturer's literature.
15 Q So has EPA opined about the Arid separator?
16 A I don't know.
17 Q You don't know. Is it a requirement that all
18 stations use an Arid separator, an Arid --
19 MR. GROSSMAN: You mean Permeator?
20 BY MR. SILVERMAN:
21 Q -- Permeator? Excuse me.
22 A There is not that requirement.
23 Q You indicated that you were aware that there is
24 some physical conflict between the Stage II controls and the
25 in-car canisters, is that correct?

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1 A That is correct.
2 Q And do you know what that conflict is?
3 A Right now, if a car comes up to a gas station that
4 has canister technology, a more recent car, that there's a
5 conflict between that technology and the Stage II control
6 system, and I don't know the mechanical nature of the
7 conflict, but I do know that it results in an emission
8 penalty. Emissions are increased.
9 Q Did you know that, that the Arid Permeator is said
10 to work better with the Stage II controls than without? Do
11 you know that?
12 A Does it work better with the Stage II --
13 Q Yes.
14 A -- or without the Stage II? With canisters you're
15 saying or -- I don't understand.
16 Q No, not the canister, the Stage II. Stage II has
17 a control on the tanks.
18 A I'm going to ask you to repeat the question.
19 Q Yes. Do you know whether there is a conflict or
20 if there's a harmony between the Arid Permeator and the
21 Stage II controls?
22 A I do know that the Stage, well, the Stage II
23 controls ends up producing vapors in the tank. The tank
24 emissions that would have to go through the vent are
25 controlled to a high level of control. So they're connected

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1 in part of a system. Do I know of any incompatibility? I
2 do not.
3 Q And do you know if they work, the Stage II
4 controls and the, not the canisters, the Stage II controls
5 and the Arid Permeators work well together? Do they get a
6 higher, a higher degree of control when they're both
7 present?
8 A Well, the manufacturer quotes 99.27 percent
9 control. I'm well aware of the fact that Stage II is in
10 effect throughout the country --
11 Q Right. And --
12 A -- so I'm taking that value to be with Stage II
13 control in place.
14 Q Now, is it not true that Stage II controls are
15 being phased out because of the on-board canister?
16 A They will be phased out, and some states, I
17 believe, have phased them out. Maryland has not yet.
18 Q Right. Do you know whether the phase-out of Stage
19 II will affect the performance of the Arid Permeator?
20 A I don't see why it -- I'm not an engineer, but if
21 you're asking my opinion --
22 Q Which I just asked you if you knew. If you
23 know --
24 A -- I can't imagine why it would. It condenses the
25 vapors that are in the system and puts it back in the tank.

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1 So I would have to presume it would keep on doing that
2 whether we had Stage II controls or not.
3 Q Okay. As I recall your testimony, with some
4 coaching, was that Costco's been using the Arid Permeators
5 for about a year and a half?
6 A I don't know. I think Erich Brann mentioned
7 they've been using them for a few years. I don't remember
8 the exact number.
9 Q But they don't use them in Sterling, right?
10 A They do not.
11 Q So does Costco have any experience with the Arid
12 Permeator five years into a station's life?
13 A You'd have to ask Costco. I don't know.
14 Q You don't know. Okay. Let me, let me ask you
15 about the background levels. In one of your reports you had
16 assessed the background levels at 12 micrograms per cubic
17 meter, and then in a subsequent report you said the
18 background levels were 10-something, is that correct?
19 A Are you referring to PM 2.5 annual background?
20 Q Yes. I'm sorry, yes.
21 A Yes. I'm sorry, 12.1 --
22 Q Yes.
23 A -- and then we refined that number, based upon
24 measured data, more recent measured data, to 10.8.
25 Q Well, where did you get your first, your first

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1 number?
2 A Initially we were using the highest, highest
3 measured annual concentration, rather than the average,
4 across a three-year period for any location. That's how we
5 got the 12.1.
6 Q That was your conservative approach, is that not
7 right?
8 A Well, we went back to 2009. We know what the
9 trend has done since then. So, clearly, it was
10 conservative.
11 Q And then you changed because you thought that was
12 no longer a good approach, or for what reason did you
13 change?
14 A I mentioned in earlier testimony that between the
15 time that my report was released in November 2012 and the
16 1st of this year, that, first of all, the standard changed.
17 I also mentioned we met with staff of Maryland Parks and
18 Planning that requested, in light of that change and the
19 fact that the Washington Council of Governments had a much
20 lower background, that we strive for consistency with the
21 Washington Council of Governments and reassess our, our
22 background factor, and we did.
23 Q You said the standard had changed. Does the fact
24 that the standard has changed, does that affect the
25 measurements that you take?

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1 A Well, frankly, if you're an analyst conducting
2 conservative modeling, as we have demonstrated consistently
3 that we have, we overstated a whole number of things --
4 Q No. I just asked you --
5 A Well, let me finish the statement, though, sir.
6 We overestimated a whole lot of things, that if the standard
7 is going to change, of course we would have reassessed the
8 degree of conservatism in something like a background term.
9 In that case, our conservative assumption, which was more
10 conservative than EPA required, was higher than the
11 standard.
12 MR. GROSSMAN: No, but I think his question is,
13 the standard, you say, changed. How does that change the
14 measurement, because you said the 12.1 was the highest
15 measured, is that correct?
16 THE WITNESS: That's -- from the period of 2009 to
17 2011, that was the highest annual average PM 2.5
18 concentration in the region, and you know, why would it --
19 those numbers did not change, Mr. Silverman, but what did
20 change was that EPA updated its standard and we relied upon
21 more up-to-date information and, rather than conservatively
22 represent background, we used EPA's standard approach, using
23 the three-year running average, and that ended up being
24 10.8.
25 BY MR. SILVERMAN:

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1 Q So you didn't use the EPA's conservative approach,
2 using a three-year running average, previous to that?
3 A Previous to that, we used the highest to be more
4 conservative.
5 Q So that's your assumption about the standards
6 being -- the background being in the range of 10-something
7 is not as conservative as your original?
8 A No, it's not.
9 Q And did you back down from some of your
10 conservatism in connection with other measurements?
11 A I can't think of any I have.
12 Q Just this one?
13 A No. If you look at the record that I established
14 in my direct testimony, I showed at least five things I can
15 think of where I made the numbers more conservative.
16 Q Gotcha. But in terms of being less conservative,
17 you didn't back -- this is the only one you retreated on, is
18 that right?
19 A I wouldn't use the term retreat. This is the --
20 this is one of them that I refined, based upon a change in
21 the circumstance, and ended up following EPA's, you know,
22 procedures, which I believe is still very conservative, but
23 I followed EPA's procedures rather than allowing extra
24 conservatism in that background term.
25 Q And you did this at the urging of the Park and

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1 Planning Commission's staff?
2 A Yes. They suggested that I reassess that
3 background value.
4 Q I had understood you to be very critical of the
5 Park and Planning staff's scientific work in connection with
6 air pollution. Is that correct?
7 A Well, I, I haven't agreed with everything that
8 they've done. That's --
9 Q But you agreed with that one?
10 A Well, it certainly made sense to me, if the
11 standard has changed and we're using a very conservative
12 number that's higher than the standard, it would make sense
13 to reassess that particular value.
14 Q Okay. Could you tell us and -- excuse me a
15 moment. Could you tell us the meaning of the words
16 attainment and non-attainment?
17 A Attainment means that the area has been designated
18 by EPA to be in attainment of the standards, the National
19 Ambient Air Quality Standard in question.
20 Q And how does EPA determine whether a region is in
21 attainment or non-attainment?
22 A They review measured air quality data to make that
23 determination.
24 Q And where are these measurements from?
25 A The measurements are from monitors in the region.

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1 Q And which in this case, the case of the Washington
2 metropolitan region, which monitors would they be?
3 A In the case of which?
4 Q Of the Washington metro region, which monitors
5 would they be?
6 A I don't know which specific monitors they would
7 use to make that judgment.
8 Q Did they use the one, the monitors that you
9 referred to in making your judgments?
10 A As I mentioned, I don't know which ones they'd
11 choose to use for this area to make that judgment.
12 Q So you don't know if they used the Rockville
13 monitor or the Beltsville monitor or the Arlington monitor?
14 A As I mentioned, I don't know which particular
15 monitors they would choose to use for that judgment.
16 Q Do you think they might try to use all of them?
17 MR. GOECKE: Objection, asked and answered.
18 MR. GROSSMAN: Yes, sustained.
19 MR. SILVERMAN: Okay, fine.
20 BY MR. SILVERMAN:
21 Q But some monitor indicates that, for like CO, for
22 example, the region is in attainment, is that right?
23 MR. GROSSMAN: Has it been stated that we are in
24 attainment by the EPA?
25 BY MR. SILVERMAN:

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1 Q Are we in attainment for CO?
2 A We are in attainment for CO.
3 Q Now, you testified that there's a lot of pollution
4 on Georgia Avenue and Veirs Mill Road, did you not?
5 A What I said was that that was a relative hot spot,
6 much higher CO concentrations than near the gas station.
7 Q And are they higher than the standard?
8 A We showed numbers up to the standard right at the
9 roadway itself.
10 Q So that it may be that, at least on Georgia
11 Avenue, Georgia Avenue and Veirs Mill Road may not be in
12 attainment?
13 A Well, that would be up to the state and EPA to
14 make that judgment.
15 Q Well, I mean, let's take, let's get rid of the
16 word attainment. It may be that, that there are areas on
17 Georgia Avenue and Veirs Mill Road, maybe next to one of
18 these hamburger joints, that, that the standards are not
19 being met. Is that possible?
20 MR. GROSSMAN: So if it's possible, what does that
21 gain us in terms of the evidence?
22 MR. SILVERMAN: What it means, it tells you that
23 even though a particular regional monitor says one thing, it
24 doesn't mean that that is the condition throughout the
25 region. It just means that those monitors tell you certain

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1 things.
2 MR. GROSSMAN: All right. Is that correct?
3 THE WITNESS: It's possible.
4 MR. GROSSMAN: I don't know whether that, how that
5 helps me in terms of assessing this case.
6 MR. SILVERMAN: Well, I'm trying to get some
7 background, the background measurements --
8 MR. GROSSMAN: Okay.
9 MR. SILVERMAN: -- that's what we've been
10 discussing, the background measurements.
11 BY MR. SILVERMAN:
12 Q Incidentally, you reference EPA's conservative
13 approach to backgrounds, and can you tell me just what that
14 is, and where could I find that approach?
15 A You could look in the EPA guideline on air quality
16 models under background treatments, and they describe the
17 approach I mentioned. EPA certainly allows less
18 conservative treatments if one chooses to do so.
19 Q The NO2, that's a pollutant, right, has health --
20 A Yes.
21 Q -- has health effects, as far as you know?
22 A Yes, at certain concentrations, it would.
23 Q All right. Was the NO2 annual standard changed
24 recently, last few years?
25 A I don't remember the year, but are you referring

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1 to the one-hour NO2 standard?
2 Q Yes.
3 A Yeah, I don't remember when it was changed.
4 Q Pardon?
5 A I don't remember when it was changed.
6 Q And how about the annual standard?
7 A I don't recall the dates when those were set.
8 Q Would you say it's within the last five years?
9 A I just don't know.
10 MR. GOECKE: Objection, relevance.
11 MR. GROSSMAN: Well, it's been asked and answered.
12 So --
13 MR. SILVERMAN: Thank you.
14 MR. GROSSMAN: -- he didn't remember the date.
15 BY MR. SILVERMAN:
16 Q In determining the backgrounds for NO2 in your
17 various reports and statements, have you changed the number?
18 Have you corrected it at all?
19 A We changed, we changed one of the numbers. We
20 used a very conservative number. I believe it was for the
21 annual term, and we since updated that, based upon following
22 EPA's methods, and used a more accurate representation.
23 Q So is there a difference between accurate and
24 conservative?
25 A No. I think we used the default of a different

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1 averaging time initially because it was so far from the
2 standard, but we then ended up following EPA's conservative
3 approach. In some cases, we were too conservative in this
4 analysis.
5 Q You know, I, I, listening to your testimony, I
6 could never tell whether I'm in the city or the country.
7 Can you tell me how you --
8 MR. GROSSMAN: Well, let's eliminate any
9 prefaces --
10 MR. SILVERMAN: I'm sorry.
11 MR. GROSSMAN: -- to questions.
12 MR. SILVERMAN: I'm sorry.
13 BY MR. SILVERMAN:
14 Q Can you tell me how you choose for one particular
15 measurement to use the urban values and for another
16 measurement to use the rural values? What is guiding your
17 judgment in that regard?
18 A Land use conditions.
19 Q Well, the land use conditions for the Wheaton Mall
20 are the same. So do you always use, are you going to always
21 use the urban or always use the rural for Wheaton Mall?
22 A For, let me -- it may help to explain.
23 Q Yes.
24 A When we do our analyses, we follow EPA procedures,
25 and EPA -- so you're modeling the Wheaton area, like we

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1 have. EPA has a specific procedure. Mr. Cole and I are
2 both well aware there's a procedure, that you look at the
3 three-kilometer radius of your source and you look at the
4 land use within that three-kilometer radius. And EPA
5 defines certain types of land use as what they call,
6 quote/unquote, urban, and some they call, quote/unquote,
7 rural, and you're determining which one has the
8 preponderance of the land use, and you use that for your
9 general modeling, and we did, and it ends up being rural for
10 this area. There's a lot of driveways and lawns and that
11 sort of thing, and it ends up being, in the big picture,
12 rural. Because we're following EPA's procedures, we used
13 rural, and for the plots that we've done, they're all based
14 upon rural.
15 But, on the other hand, if the key points of
16 review in this case is the closest home and the Stephen
17 Knolls School is adjacent to the mall and the swimming pool
18 is adjacent to the mall, the plume that's traveling from the
19 gas station, the queuing and the fueling area and so forth,
20 is going predominantly over mall property, asphalt,
21 concrete. Clearly, land use is applicable to an urban
22 setting, and in that setting you're not going to get the
23 restricted dilution like you'll get in the lawns and the
24 driveways; you're getting more of an urban, greater mixing
25 going on in that zone.

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1 And so when I'm interpreting it, if there's any
2 results adjacent to the mall, I'm using what's the most
3 applicable dispersion characteristics for the mall, and as
4 you'll see in my work, I'm only using those for those three
5 receptors. If we go significantly further away from that
6 such that most of the flow is over rural conditions, we're
7 using rural, and we've used that for all of our maps beyond
8 those three places.
9 MR. SILVERMAN: Excuse me. Oh, yes, that's right.
10 Thank you.
11 BY MR. SILVERMAN:
12 Q MOVES and the MOBILE6, which one of those has been
13 superseded?
14 A March 2nd, 2013, the EPA officially transferred
15 from MOBILE6.2 to MOVES, which is approximately, you know,
16 five months after our report, four months after our report
17 was completed.
18 Q And have you attempted to use the MOVES
19 methodology?
20 A Yes, we have.
21 Q And did you use it?
22 A Did I what?
23 Q Did you use it? Sorry.
24 A We have, we have made some test runs just to try,
25 to try the model, but we have not received from the

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1 Metropolitan Council of Governments sufficient input on the
2 options and switches and inputs of that model to make a run
3 that would supersede MOBILE6.2. And to clarify, for the
4 mobile source modeling exercises, there are switches and
5 fleet mixtures and so forth that are used by those doing
6 analysis in the region and it's standardized, and we
7 approached the Council of Governments multiple times, saying
8 we'd like to get your recommended inputs so we can run it
9 for this project, and again, I said we asked them last week.
10 They said sometime this summer they'll be available.
11 I am not going to recommend doing an analysis for
12 a project of this magnitude, you know, guessing what those
13 inputs are going to be. And so we maintained MOBILE6.2, and
14 in fairness, we did make the statement in our report and we
15 agreed with Dr. Cole that the MOVES is going to produce
16 higher emissions for particulates and, if you also look at
17 the literature, lower for VOCs and for CO. So, you know,
18 we're -- so by that context, we're overstating CO and VOCs,
19 and we acknowledge -- and we didn't change anything there --
20 we're acknowledging that for PM 2.5, that our numbers, if
21 you scale up the queuing particularly, are going to be low,
22 and we scaled up accordingly, in more of a qualitative
23 basis, but we did scale up our modeling in the spirit of
24 trying to be as consistent with where MOVES is going as we
25 could.

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1 Q But EPA regards the MOVES as a superior
2 technology, giving you a more accurate picture of what's
3 going on, whether it's higher or lower, is that correct?
4 A Well, I agree with that, and as soon as it's
5 available with the inputs used, we're trying to get it as
6 soon as we can.
7 Q So because, through no fault of yours perhaps, the
8 fact it's not available, does that suggest to you that maybe
9 your report is not so accurate as it could be if it were
10 available?
11 A I'd rather refer to it, does it, if your question,
12 does it mean our report is conservative or not, and I'll
13 maintain that our report is very conservative, including
14 with the caveat that we did scale up the queuing emissions
15 by a factor of 10, that we've anticipated the change that
16 MOVES is going to make.
17 Q Well, I think I asked you about accurate. Is your
18 report -- would your report be more accurate if you had used
19 the approach recommended now by EPA?
20 A Would it be more accurate?
21 MR. GROSSMAN: Well, I think there's a, frankly,
22 there's a problem with that question. I think he's answered
23 that from his perspective MOVES would be preferable if it
24 were available but it's not available because he doesn't
25 have the access to the inputs that are necessary. He's also

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1 said that he's adjusted his figures in anticipation of
2 applying MOVES, to take into account. And he said that the,
3 that his figures under MOVES would overstate the VOCs but
4 understate particulate matter, if I understood all of his
5 testimony. I don't know how you can then fairly ask the
6 question about accurate. I mean, I think he's answered that
7 question by breaking it down into component parts.
8 BY MR. SILVERMAN:
9 Q Well, how would, how would one assess whether your
10 adjustments were appropriate?
11 A My adjustments are based upon the available
12 literature and testing that's been done to date, some of
13 which Dr. Cole has put on the record, which I thought were
14 helpful. I have no question the modeling done is
15 overstating. There's no question in my mind at all.
16 MR. GROSSMAN: Is overstating what?
17 THE WITNESS: Overstating actual expected
18 concentrations for fine particulates and all the other
19 pollutants.
20 BY MR. SILVERMAN:
21 Q The model that you used, your MOBILE6 model
22 overstates? Is that your testimony?
23 A No. I'm referring -- I said my dispersion
24 modeling that we've conducted for this project, using peak
25 emissions all the time within the ring road, overstating

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1 the, the loading docks, overstating the parking lots, I
2 mean, one step after another we have cascading conservatism
3 here, trying to seek consensus, and frankly, our modeling is
4 overstating by a lot. And so, you know, your question --
5 MR. GROSSMAN: Overstating what by a lot?
6 THE WITNESS: Overstating actual concentrations
7 for all pollutants --
8 MR. GROSSMAN: Okay.
9 THE WITNESS: -- substantially.
10 BY MR. SILVERMAN:
11 Q You indicated that no one's ever done a study like
12 this for a gas station, is that correct, to your knowledge?
13 A I don't think I said that. I don't believe I said
14 that.
15 Q Okay.
16 A I wasn't aware of any location in the country,
17 except I said maybe in California, that this much analysis
18 has been done for a gas station.
19 Q Do you know of any situation in California,
20 actually know of any situation where this type of analysis
21 was done for gas stations?
22 A I do not.
23 Q Have you ever worked for Costco before this case?
24 A No.
25 Q Do you know if Costco has ever retained other

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1 people to do this type of analysis on other gas stations?
2 A I don't know specifically. I presume they have.
3 Q Well, did they share that with you?
4 A Could -- I'm trying to recall. Three years ago,
5 when I first started, I might have seen a copy of some
6 earlier work, but I don't really recall any specifics.
7 Q So are there, like, peer-reviewed papers about
8 evaluation of gas stations that, large gas stations and
9 modeling for large gas stations, are there peer-reviewed
10 articles that you relied on in doing your work?
11 A No. We rely upon the EPA guideline and air
12 quality modeling and AP 42, both EPA methodology.
13 Q So this is a case of first impression,
14 scientifically, is that, would that be fair?
15 A No, sir, that's not fair.
16 Q Well, as far as you know, it's not been done
17 before?
18 A No, when you asked if it was fair, my point is, we
19 have modeled every kind of facility you can imagine and the
20 procedures are common: EPA emission factors such as AP 42,
21 AERMOD dispersion modeling or its predecessor models.
22 Whether it be a gas station, a print shop, dry cleaner, or
23 chemical plant, the same fundamental methodology is
24 employed.
25 Q And if you reach the conclusion that the same

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1 methodology used for factories or print shops apply to gas
2 stations, wouldn't that be a scientific finding of some
3 significance?
4 MR. GOECKE: Objection.
5 MR. GROSSMAN: Yes, I'll sustain it. I don't know
6 what that means.
7 MR. SILVERMAN: I'll try another route.
8 MR. GROSSMAN: Okay.
9 BY MR. SILVERMAN:
10 Q Did the Montgomery County Department of Health
11 express an opinion about, about the safety of this gas
12 station in terms of air pollution?
13 A My recollection is they, they indicated they
14 didn't have the, the staff credentials or experience to be
15 able to opine on that.
16 Q And how about the environment department here in
17 the county?
18 A Are you referring to Parks --
19 Q Not Parks and Planning, the Department of
20 Environment. I think that's what it's called.
21 A Maryland Department of the Environment?
22 Q No, no. The Department of Environmental
23 Protection here in the county, did they express an opinion?
24 A I don't recall.
25 Q Is there any government official who expressed an

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1 opinion about your, this particular station and your
2 particular work?
3 A Any government official? You're referring to
4 Parks and Planning, or I -- that's the only group that
5 opined that I can recall, and I would --
6 Q Parks and Planning is the only, the first group to
7 ever opine, as far as you know, on this?
8 A Well, that's the one I recall did opine.
9 Q Right. And did the state, Department of, Maryland
10 Department of Environment, did they offer opinions to you
11 about your work?
12 A I discussed it with them, yes.
13 Q Did they say it's good, we approve, or it's bad,
14 we don't?
15 A What they told me was that the work we had done in
16 one of our earlier reports had been shared with EPA's
17 regional meteorologist in Region 3 and that he had no
18 objection or concerns with our work. That's what I recall.
19 Q That's what they said to you about what Region 3
20 did?
21 A Well, and they had -- they didn't express any
22 concerns either.
23 Q They didn't express any concerns?
24 A No.
25 Q Do you know that the, that the Department,

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1 Maryland Department of the Environment did communicate with
2 the County Council when they were considering the ZTA and --
3 MR. GROSSMAN: So, in fairness, is there a
4 document that establishes that that you have?
5 MR. SILVERMAN: Yes. Well, I think, I think,
6 Mr. Grossman, you said, when talking about legislative
7 history, you said that the, the report that preceded the
8 legislation was part of the legislative history.
9 MR. GROSSMAN: When you say preceded, they have an
10 opinion that accompanied --
11 MR. SILVERMAN: Exactly, yes.
12 MR. GROSSMAN: -- and that is part of legislative
13 history?
14 MR. SILVERMAN: Yes, that's right. That's right.
15 Well, let me see if I can -- it's in the record --
16 MR. GROSSMAN: Right.
17 MR. SILVERMAN: -- that report.
18 MR. GROSSMAN: I put it in the record.
19 MR. SILVERMAN: Yes. And so there's reference to
20 the state view, which was, as I think it --
21 MR. GROSSMAN: I don't recall off the top of my
22 head. That's why I wanted you to tell me what this is.
23 MR. SILVERMAN: Yes.
24 MR. GROSSMAN: Maybe I have a copy of it here, and
25 I can look. Yes, let me see if I can tell you what the

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1 exhibit number is.
2 MS. ROSENFELD: Mr. Grossman, I think you might
3 take a look at 90(c).
4 MR. SILVERMAN: Thank you.
5 MR. GROSSMAN: I'll tell you in a second. I have
6 a copy of it here. I just didn't write the exhibit number
7 on the copy I have loose. It was right at the beginning of
8 the hearing. It would have been April 26, I believe, and
9 yes, it's Exhibit 99, a copy of Council Ordinance 17-19.
10 That's ZTA 12-07 and that contains the opinion as well. And
11 what particular --
12 MR. SILVERMAN: They reference the letter from the
13 air administrator to me, actually, expressing the state's
14 viewpoint.
15 MR. GROSSMAN: Just refer me to the page of the
16 opinion you're talking about.
17 MR. SILVERMAN: Give me a second. I'm sorry.
18 This is attached as an attachment to the opinion. It's an
19 April 1st, 2013, letter, and page --
20 MR. GROSSMAN: Well, I don't have any attachments,
21 I don't think. Let's see. The opinion doesn't have an
22 attachment that I see.
23 MR. SILVERMAN: Let's see. Hold on. I'll get a
24 page number here. The third page from the end of --
25 MS. ROSENFELD: Mr. Grossman, I'm not certain

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1 which exhibit you're looking at. This was in -- on my
2 exhibit list, this is Exhibit 90(c).
3 MR. GROSSMAN: Oh, I'm looking at Exhibit 99. I
4 put: A copy of the --
5 MR. SILVERMAN: No, that's not the one I want.
6 MS. ROSENFELD: 99?
7 MR. SILVERMAN: Yes, it's not the one I want.
8 MR. GROSSMAN: -- of the Council's action,
9 Ordinance No. 17-19, which is Zoning Text Amendment 12-07.
10 MS. ROSENFELD: Yes. I don't know that it was --
11 I do have that. I'm not sure the EPA letter he's talking
12 about is attached --
13 MR. SILVERMAN: No, it's not attached. It's a
14 reference.
15 MS. ROSENFELD: -- to the Council's resolution.
16 MR. GROSSMAN: It's referenced, he says. That's
17 what --
18 MR. SILVERMAN: Yes.
19 MR. GROSSMAN: -- I'm asking, what the reference,
20 where the reference is.
21 MR. SILVERMAN: Right. I'm sorry.
22 MS. ROSENFELD: I do have a copy of the Council
23 resolution.
24 MR. SILVERMAN: Yes. That's --
25 MR. GROSSMAN: Are you talking about -- I mean,

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1 there is a sentence --
2 MR. SILVERMAN: Right, that's it.
3 MR. GROSSMAN: -- Item 5 says: As indicated by
4 the comments of the Maryland Air and Radiation Management
5 Administration. Is that what you're referencing?
6 MR. SILVERMAN: Yes, that's what I'm -- that's
7 what I'm referencing.
8 MR. GROSSMAN: Okay. So that sentence is, this
9 is, it's under the list of the Council -- this is on page 3
10 and that's their number for the, for the opinion. It's
11 actually, the opinion itself is two pages, and it begins on
12 page 2. So on page 3, Item listed as 5, and it's under a
13 list: Council finds for a number of reasons to distinguish
14 large gas stations, parens, designated for more, for 3.6
15 million or more gallons sold per year, comma, from smaller
16 gas stations. And Item 5 says: As indicated by the
17 comments of the Maryland Air and Radiation Management
18 Administration and in academic literature, the gasoline
19 station business changed in the early 1990s when the
20 superstation or hypermarket first appeared on the scene.
21 These stations are vastly different from the small town,
22 low-volume local gasoline station. These, quote,
23 superstations, unquote, have gone from zero percent of
24 gasoline distribution in the country to 16 percent in the
25 past two decades. Is that what you're referencing?

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1 MR. SILVERMAN: I'm referencing that letter, yes.
2 Well, let me move on because I'm obviously not quite ready
3 with this one. Maybe --
4 MR. GROSSMAN: Okay.
5 MR. SILVERMAN: -- we'll have it better later.
6 BY MR. SILVERMAN:
7 Q Could we go to your slides?
8 A All right.
9 MR. GOECKE: Do we need to turn this back on,
10 David?
11 THE WITNESS: Yeah, please.
12 BY MR. SILVERMAN:
13 Q And could we go to the slide that references the,
14 the school-siting guidelines, which are also referenced by
15 the County Council?
16 A Okay.
17 MR. GROSSMAN: I'm sorry. What was also
18 referenced by the County Council?
19 MR. SILVERMAN: The school-siting guidelines,
20 which I think is also in the record.
21 MR. GROSSMAN: And where was that referenced? Oh,
22 I see, No. 2: The EPA, in its --
23 MR. SILVERMAN: Yes.
24 MR. GROSSMAN: -- 2011 school-siting guidelines --
25 MR. SILVERMAN: Right.

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1 MR. GROSSMAN: -- recommended using 3.6 million
2 gallons as the size at which gasoline stations should be
3 treated differently.
4 MR. SILVERMAN: Yes.
5 MR. GROSSMAN: Is that what you're talking
6 about --
7 MR. SILVERMAN: Yes.
8 MR. GROSSMAN: -- Item 2? Okay. Item 2 on page
9 3.
10 THE WITNESS: Do you have the slide number,
11 Mr. Silverman?
12 BY MR. SILVERMAN:
13 Q I think it was the --
14 MR. BRANN: David, Mike said 65.
15 THE WITNESS: Which one?
16 MR. BRANN: Sixty-five.
17 THE WITNESS: Sixty-five?
18 BY MR. SILVERMAN:
19 Q Yes, I think it's one of the later slides.
20 A Wait, I'll get there. Here it is here.
21 Q Yes, that one. Yes, you --
22 A I'll bring it up properly.
23 Q -- referenced the CARB language, but below that
24 there's language from the school-siting guidelines.
25 A Yeah. Let me just get this slide up.

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1 Q Okay.
2 A Okay.
3 Q All right. As we all can see, it says: If --
4 what's an LEA?
5 A Yeah, I don't recall what the LEA stands for.
6 This is a school-siting guidance. So I presume --
7 Q If I --
8 A -- it pertains to some government entity that is
9 responsible for siting a school.
10 Q Yes. Local Education Authority, would that, would
11 that --
12 A That sounds good.
13 Q That sounds good. Okay, good. So it suggests
14 that when -- it suggests that the Local Education Authority
15 in these cases, where there, where there's a risk
16 identified, that they, they hire someone to perform risk
17 assessment. Is that the same as an -- yes, in this case, I
18 just want to get back to where we were, is there any, is
19 there any government agency, any responsible, any agency
20 responsible for health or environment that has stated that
21 they agree with your conclusions, other -- well, no. Is
22 there any? Is there any government agency or government
23 official who has stated that they agree with your
24 conclusions, they have studied your report and they concur
25 with what you're saying?

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1 MR. GOECKE: Objection, relevance.
2 MR. SILVERMAN: Well, he --
3 MR. GROSSMAN: I think it's, it's all right. I
4 will overrule the objection. Do you know of any government
5 agency that's reviewed your report in this case and approved
6 it?
7 THE WITNESS: There's been no government agency
8 that had staff with experience in air quality modeling that
9 have reviewed this and opined. The only, the only
10 government agency that opined was Parks and Planning, and
11 during the hearing, I don't remember the date, they,
12 Ms. Lindsey did indicate that she was not experienced in
13 these matters.
14 MR. GROSSMAN: This is during the Planning Board
15 hearing?
16 THE WITNESS: Yes, thank you.
17 BY MR. SILVERMAN:
18 Q Now, when you apply for a permit under the Clean
19 Air Act, or a power plant or a solid waste facility or
20 whatever, you indicated you do similar sorts of analyses to
21 determine if you're in compliance with the air quality
22 standards, is that right?
23 A Similar to the modeling we've done here?
24 Q Yes.
25 A That's correct.

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1 Q But in those cases there is, there is an official
2 of government with training and experience who is looking
3 over your shoulder, is that not correct?
4 A Well, I mean, your report is submitted to the
5 agency that's issuing the permit, and they evaluate it per
6 their procedures --
7 Q Right.
8 A -- and either approve or disapprove.
9 Q And when the EPA is involved or certain states are
10 involved, they generally have some knowledge and background
11 in this, they've done it before, is that right?
12 A Well, certainly.
13 Q There's no such umpire now. We just have you.
14 MR. GROSSMAN: How about me?
15 MR. SILVERMAN: Well, that's what I was going to
16 say. Where angels fear to tread, Mr. Grossman.
17 MR. GROSSMAN: I mean, I don't think that any
18 applicant will suggest that there aren't enough government
19 agencies overlooking them in this jurisdiction. They are
20 reviewed by technical staff, they are reviewed by the
21 Planning Board, they are reviewed by a hearing examiner,
22 they will be reviewed by the Board of Appeals, and then if
23 this goes to a court, they'll be reviewed by a court. So I
24 don't know that you can make that assumption.
25 MR. SILVERMAN: Well, the agencies that normally

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1 protect health and environment have sort of taken a pass
2 because they don't have the qualifications.
3 MR. GROSSMAN: I don't know that you can say that.
4 I mean, who's taken a pass?
5 MR. SILVERMAN: Department of --
6 MR. GROSSMAN: Who's had it in front of them,
7 other than technical staff and the Planning Board and myself
8 thus far, as a reviewing agency?
9 BY MR. SILVERMAN:
10 Q Is it not true that the Department of Health and
11 Department of Environmental Protection were asked to, were
12 asked to give an opinion to the County Council on this
13 issue? Were you there when they were asked that?
14 A Well, I know the Department of Health was asked to
15 make a decision, and we met with them and they, they
16 indicated they weren't qualified to review the work --
17 Q Right.
18 A -- but when you said that everybody took a pass,
19 that is not true, because the agency that has primary
20 authority in Maryland regulating gasolines is the Maryland
21 Department of the Environment and they have very specific
22 regulations in place, and a permit is applied for for a gas
23 station based upon engineering controls. And the reason no
24 agency reviewed this work is because he really, honestly,
25 shouldn't have even done modeling, because as has been

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1 shown, the results are so low that we're --
2 Q Wait a minute. Wait. Excuse me.
3 A -- we're talking about numbers that are way below
4 the standards.
5 Q Excuse me. The reason they didn't do it is
6 because, the reason they didn't do it is because they have
7 no authority to do it, isn't that correct?
8 A The Maryland Department of the Environment has
9 authority to regulate gasolines and they do.
10 Q By various technology controls?
11 A They do not require air quality modeling-related
12 permit work to get a gas station permit to operate.
13 Q Well, that's right, and they don't require finding
14 that the gas station will or will not conform to the
15 National Air Quality, Ambient Air Quality Standards either,
16 do they?
17 A Well, as I mentioned, if you look at the results
18 for this large gas --
19 Q Well, wait. I just asked you a question.
20 A I'm answering your question.
21 MR. GROSSMAN: Well, he can answer it.
22 MR. SILVERMAN: Okay.
23 THE WITNESS: If you look at the results from this
24 application here, a 12-million-gallon-a-year gas station, an
25 objective look at the concentrations we have modeled

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1 relative to the standards, it's way below the standards and
2 there'd be no objective reason that MDE would have to make
3 every applicant for a gas station do an extensive dispersion
4 modeling analysis if a large one like this has such low
5 numbers.
6 BY MR. SILVERMAN:
7 Q Well, according to you, they have such low
8 numbers, but they never even reviewed your work in detail,
9 did they?
10 MR. GROSSMAN: I don't understand. Why would they
11 at this juncture? Isn't the process for this county that
12 this is the process you go through for a special exception?
13 I mean, if there are permits required later, if a special
14 exception were granted here and permits were required later,
15 I guess whoever is the permitting authority would then look
16 at whatever they have to review, but why --
17 MR. SILVERMAN: Well --
18 MR. GROSSMAN: -- I don't understand where that
19 gets us. What are you suggesting --
20 MR. SILVERMAN: If I --
21 MR. GROSSMAN: -- that somebody else should have
22 reviewed this but didn't?
23 MR. SILVERMAN: No. I'm just suggesting that the
24 only, the only person in government, other than the Planning
25 staff, who can make a finding, make the ultimate finding

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1 about health and safety is you, sir; that you have no, you
2 have no support from other government agencies who do this
3 all the time.
4 MR. GROSSMAN: No. I'm going to base it on the
5 evidence that is presented to me.
6 MR. SILVERMAN: Okay. Just letting us know. Now,
7 I did find the --
8 MR. GROSSMAN: I do have support from other
9 agencies. I have support from the technical staff --
10 MR. SILVERMAN: Exactly.
11 MR. GROSSMAN: -- and the Planning Board --
12 MR. SILVERMAN: Yes.
13 MR. GROSSMAN: -- and all the evidence that both
14 sides, who are extremely well-informed in this case and
15 well-prepared, will present to me. So --
16 MR. SILVERMAN: Well, I admire you. I did find
17 the document that, that I was searching for. It's Exhibit
18 90(b).
19 MR. GROSSMAN: Okay. Let's --
20 MS. ROSENFELD: And, Mr. Grossman, I think it's
21 part of 90(b). You're going to need to look -- I think
22 there's actually several documents that are in 90(b).
23 MR. GROSSMAN: I see.
24 MR. SILVERMAN: This one has the Maryland
25 Department of Environment letterhead on it.

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1 MR. GROSSMAN: Okay. Hold on a second. I found
2 90. So 90(b) -- ah, 90(b). Okay. That's Exhibit W from
3 Mr. Silverman. How far down into 90(b) should I go,
4 Mr. Silverman, to find this document?
5 MS. ROSENFELD: I actually think it was just about
6 at the very end.
7 MR. GROSSMAN: At the very end? Okay, let's see.
8 I got EPA letter, Item 6. Is that what you're talking
9 about?
10 MR. SILVERMAN: Yes. No, it's Department,
11 Maryland Department of Environment.
12 MR. GROSSMAN: Oh, okay. Let me see.
13 THE WITNESS: Lisa Nissley, who is the author, I
14 believe.
15 MR. GROSSMAN: What item was it in your --
16 MS. ROSENFELD: 90(b) is called Analysis of the
17 Clean Air Act on your exhibit list.
18 MR. GROSSMAN: Yes, but I'm just trying to find
19 the specific letter that he's referencing. Mr. Silverman,
20 do you want to come up --
21 MR. SILVERMAN: I have it here.
22 MR. GROSSMAN: Okay.
23 MR. ADELMAN: Page 12.
24 MR. SILVERMAN: Page 12, I understand.
25 MR. GROSSMAN: Page 12.

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1 MR. SILVERMAN: Yes. You got that list?
2 MR. GOECKE: Yes.
3 MR. SILVERMAN: Okay.
4 MR. GROSSMAN: I don't think it's fair that all of
5 you found it and I can't. I'll tell you what. I'm going to
6 take this out of here. All right. Okay, Maryland
7 Department of the Environment.
8 MR. SILVERMAN: There we go, good. Can I show
9 this to the witness?
10 MR. GROSSMAN: Yes.
11 MR. SILVERMAN: Thank you.
12 MR. GROSSMAN: July 10, 2012 --
13 MR. SILVERMAN: Yes.
14 MR. GROSSMAN: -- it's a letter to you.
15 MR. SILVERMAN: Yes.
16 MR. GOECKE: Well, I would object to this line of
17 questioning, Mr. Grossman, because this letter is a hearsay
18 document, as Mr. Silverman has been objecting to for the
19 last few days now.
20 MR. GROSSMAN: All right. Well, hold on one
21 second. I started looking for a page. I see page, one page
22 of this, but there ought to be -- is there a second page to
23 this letter?
24 MR. SILVERMAN: It's three pages.
25 MR. GROSSMAN: I'm not seeing that. Hold on.

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1 MR. GOECKE: I mean, obviously we haven't heard
2 the question yet, but I just --
3 MR. GROSSMAN: Right. It's not there. See, my
4 copy doesn't have three pages, I don't believe. Oh, maybe
5 it goes this way. Hold on a second. I may have misspoken.
6 Okay. And that's from Angelo Bianca --
7 MR. SILVERMAN: Right.
8 MR. GROSSMAN: -- deputy director, Air and
9 Radiation Management Administration?
10 MR. SILVERMAN: Yes.
11 MR. GROSSMAN: Okay. And --
12 MR. SILVERMAN: And this was the very same letter
13 that was referenced by the County Council.
14 MR. GROSSMAN: Okay. And how do we know that?
15 MR. GOECKE: Yes, how do we know that?
16 MR. SILVERMAN: Because they say they reference
17 it.
18 MS. ROSENFELD: This is the letter that you were
19 referencing in paragraph 5: As indicated --
20 MR. GROSSMAN: And --
21 MS. ROSENFELD: -- by the comments of the Maryland
22 Air and Radiation Management Administration.
23 MR. GROSSMAN: Right, but how do I know that those
24 are the comments they're referencing?
25 MR. SILVERMAN: Well, that's a good question. I,

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1 I know they were, they are, and I -- do you know otherwise?
2 You were present at the, at the hearing for the ZTA. I
3 think Ms. Harris will recall that this letter was before --
4 MS. HARRIS: Oh, me?
5 MR. SILVERMAN: Yes.
6 MS. HARRIS: Oh, I'm sorry. I thought you were
7 asking Ms. Cordry.
8 MS. CORDRY: No. I can't help.
9 MS. HARRIS: The question, can you repeat the
10 question?
11 MR. SILVERMAN: Yes. The question is whether or
12 not you recall the letter from the Maryland Department of
13 the Environment being before the County Council and being
14 discussed by the County Council and referenced in their
15 report.
16 MR. GROSSMAN: That is a July 10, 2012, letter to
17 Larry Silverman from Angelo Bianca, deputy director of Air
18 and Radiation Management Administration. Is that the letter
19 that the Council --
20 MS. HARRIS: I really don't know, and in fact --
21 MR. GROSSMAN: Okay.
22 MS. HARRIS: -- when Mr. Grossman first noted this
23 paragraph 5, I was assuming that he was going to say an MDE
24 letter because that's how we've always referred to it. I'd
25 also note that this says by the comments. It doesn't

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1 necessarily indicate that they were written comments. So I
2 really can't connect that paragraph 5 to this letter.
3 MR. GROSSMAN: Okay. Do you have any information
4 as to the, challenging the authenticity of this letter?
5 That is, it has a heading from the Maryland Department of
6 the Environment on their stationary and --
7 MS. HARRIS: No, I'm --
8 MR. GROSSMAN: -- the apparent original signature.
9 It's been in the file for some time now. Do you challenge
10 the authenticity --
11 MS. HARRIS: No, I --
12 MR. GROSSMAN: -- of this letter?
13 MS. HARRIS: No, I don't.
14 MR. GROSSMAN: Okay. Then I'm going to let him
15 ask his question, and let's see if there's something
16 objectionable in the question.
17 BY MR. SILVERMAN:
18 Q Okay. I would like you to read --
19 MR. SILVERMAN: If I may approach?
20 MR. GROSSMAN: Yes.
21 BY MR. SILVERMAN:
22 Q This is the second paragraph, talking about:
23 There are a number of.
24 MR. GROSSMAN: Do you want him to read it out
25 loud?

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1 MR. SILVERMAN: Yes.
2 BY MR. SILVERMAN:
3 Q If you would.
4 MR. GROSSMAN: Okay.
5 MR. GOECKE: I'm sorry. On which page?
6 MR. SILVERMAN: First page, second paragraph, the
7 end, last half of the paragraph.
8 MR. GROSSMAN: First page, second paragraph, right
9 in the middle of the paragraph: There are a number of.
10 THE WITNESS: There are a number of
11 petroleum-based toxic air pollutants that are emitted from
12 gasoline stations that pose some level of risk to public
13 health from the delivery and dispensing of fuel and the
14 idling of vehicles. The difficulties are quantifying that
15 risk, especially the incremental risk beyond existing
16 levels, and determining what risk level is acceptable. A
17 further complication is that available tools do not capture
18 very well the cumulative effects of multiple toxic air
19 pollutants or the incremental effect a single pollutant from
20 multiple sources may have on public health. Given these
21 issues and those mentioned later, the more distance that can
22 be placed between a source and residence and at community
23 gathering places is certainly beneficial to minimizing risk.
24 MR. GROSSMAN: Okay.
25 BY MR. SILVERMAN:

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1 Q Thank you. Were you familiar with this letter,
2 sir?
3 A Yes.
4 MR. GROSSMAN: Do you have any argument with that
5 sentiment that was expressed in that piece that you just
6 read?
7 THE WITNESS: I have perspective on it. I mean,
8 I've spoken to Mr. Bianca as well as his supervisor, Tad
9 Aburn, who's the director, and you know, I know that in
10 terms of -- they've seen the modeling that we've done, and
11 they had no concerns about the modeling, and I know that
12 they shared it with --
13 MR. SILVERMAN: Objection.
14 THE WITNESS: -- they or you shared it with the
15 EPA, but the issue is anyone would agree that the more
16 distance between a ground-level source like this and the
17 point of receptor will decrease concentration. That's a
18 fundamental fact, but the critical question is, are the
19 levels safe with the site-specific conditions we have here,
20 and if they are safe at those conditions, what benefit is
21 there from the additional distance? You can apply that to
22 any gasoline facility, and it'll all be offshore.
23 So my point is, yes, I'm aware of the letter, MDE;
24 in fact, I asked if we could meet with them, the modeling
25 staff, with Dr. Cole and myself, to try to, to achieve

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1 consensus on the overall approach, and they frankly didn't
2 want to get involved with that level of detail. But the
3 fact is that that letter simply states a fundamental truth:
4 the more distance, the lower concentration.
5 MR. GROSSMAN: So to boil down what your answer is
6 to my question is you don't disagree with the sentiment
7 expressed in that passage?
8 THE WITNESS: I don't.
9 MR. GROSSMAN: Okay.
10 MR. SILVERMAN: I didn't hear you, sir. I'm
11 sorry.
12 MR. GROSSMAN: I said, to boil down --
13 MR. SILVERMAN: Yes.
14 MR. GROSSMAN: -- his answer to my question is
15 that he does not disagree with the sentiment expressed in
16 the passage of that letter that he read --
17 MR. SILVERMAN: Right.
18 MR. GROSSMAN: -- that the greater the distance,
19 essentially, from the pollutants, the more diminished the
20 impact, I suppose you could say.
21 THE WITNESS: Yeah. The only clarification was
22 that I don't think it should be interpreted to say that,
23 that there's insufficient distance for the Costco gas
24 station, and it doesn't say that at all.
25 MR. GROSSMAN: Okay.

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1 BY MR. SILVERMAN:
2 Q No, it doesn't really speak to the Costco gas
3 station. It just says, as a matter of prudence, it's good
4 to keep your distance. And you agree with that?
5 MR. GROSSMAN: But I mean, does that really help
6 us? So the question here is, keep what distance? I mean --
7 MR. SILVERMAN: Well, that's --
8 MR. GROSSMAN: -- obviously, if it were a thousand
9 miles away, it would have less impact --
10 MR. SILVERMAN: Right.
11 MR. GROSSMAN: -- and if it was right next door to
12 you, 10 feet away, it would have more impact. This is
13 common sense.
14 MR. SILVERMAN: Right.
15 BY MR. SILVERMAN:
16 Q And tell me, now, are all, do all the impacts of
17 all pollution sources vary with distance, or are some of
18 them less, less sensitive to distance calculations?
19 A Well, depending upon the height of the source and
20 the physical characteristics of the buildings it's next to
21 and other features, some sources actually have zero impact
22 until a certain distance is reached, and their maximum --
23 the maximum effect there, it may be some distance downwind.
24 A smokestack from a power plant would be an example of that.
25 Q Now, in the school-siting guidelines, isn't it a

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1 fact that the EPA suggested distance is the best protector
2 for schools?
3 A I don't recall that specific language.
4 Q Don't they set some criteria for a setting, that a
5 school should be 300 feet away from certain uses and a half
6 a mile away from other uses and so forth?
7 A They don't say that.
8 Q They don't?
9 A No.
10 Q They raise a caution flag that if the school is
11 within certain distances, there may be a problem, would you
12 agree with that?
13 A Well, they, they have a screening procedure that
14 allows a jurisdiction to make a determination if a more
15 site-specific analysis is needed or they should go to a
16 different site, but nowhere does EPA say you shouldn't build
17 a gas station within 300 feet of a school.
18 Q And what is their advice to agencies that don't
19 have the resources to do a site-specific study?
20 A I believe they're silent on that. I don't recall
21 them giving advice. They indicate that if you're going --
22 my recollection, I'm going to paragraph, that if you're
23 going to build a school that's a closer distance than their
24 screening nomograms say it should be, you should do a
25 site-specific analysis or build somewhere else.

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1 Q Who should do the site-specific analysis?
2 A They don't -- I don't recall them saying who
3 should do it. They --
4 Q Well, I thought that --
5 A -- leave that as an option.
6 Q I thought they just said the LEA should do it, the
7 government agency should do it. I thought that's what we
8 just read from your slide. Is that, am I getting that
9 wrong?
10 A Well, we can bring the slide up.
11 MR. GROSSMAN: What difference does that make
12 whether they said LEA or not? I don't understand where
13 we're getting at.
14 MR. SILVERMAN: Well, this is a -- let me develop
15 that if I may because I think --
16 MR. GROSSMAN: All right.
17 MR. SILVERMAN: -- I'd like to answer your
18 question.
19 MR. GROSSMAN: Okay.
20 MR. SILVERMAN: And I think this is a relevant
21 question.
22 BY MR. SILVERMAN:
23 Q Mr. Sullivan, how much has it cost Costco to do
24 your site-specific analysis so far?
25 A \$370,000 --

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1 Q Okay. So --
2 A -- up through the end of -- where are we at? End
3 of May.
4 Q Well, not all school boards and communities,
5 community groups have that kind of resources. You agree
6 with that, don't you?
7 A I have no comment on that.
8 Q What's that?
9 A I don't know.
10 Q You don't know. If all it says is anyone can be
11 hired by anyone to do a site-specific analysis and it's
12 okay, we have to approve it or we have to do our own
13 site-specific analysis, it sort of puts a, it sort of puts
14 the wealthier applicant in a better position vis-à-vis local
15 government and community groups, doesn't it?
16 MR. GOECKE: Objection.
17 MR. GROSSMAN: Yes, sustained.
18 MR. SILVERMAN: Okay.
19 MR. GROSSMAN: Where is this going? I'm perfectly
20 willing to hear any --
21 MR. SILVERMAN: Right.
22 MR. GROSSMAN: -- cross-examination question that
23 pertains to the issues that are before me but that does not.
24 The value of the evidence that he presented should be
25 evaluated based on its value, not on any of these extrinsic

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1 things you seem to be pointing to. So if they spent more
2 money doing it, maybe it's more thorough. I don't know.
3 MR. SILVERMAN: Right.
4 MR. GROSSMAN: I just --
5 MR. SILVERMAN: Let me -- actually, could we take
6 a break? I would appreciate that.
7 MR. GROSSMAN: Sure.
8 MR. SILVERMAN: Thank you.
9 MR. GROSSMAN: All right. It's 3:30. We'll come
10 back at about 3:35.
11 (Whereupon, a brief recess was taken.)
12 MR. GROSSMAN: All right. Are we all ready to
13 resume? Mr. Silverman --
14 MR. SILVERMAN: Yes, thank you.
15 MR. GROSSMAN: -- the ball is in your court.
16 MR. SILVERMAN: Yes.
17 BY MR. SILVERMAN:
18 Q Mr. Sullivan, are you familiar with the acronym
19 PSD?
20 A Yes, I am.
21 Q What is that? Could you tell us what that is?
22 A Prevention of significant deterioration.
23 Q And how about SIL?
24 A SIL, significance level. I'm not sure of the
25 exact acronym.

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1 Q And do you know what the concept is?
2 A Are you referring to significance impact levels?
3 Q Yes.
4 A Correct.
5 MR. GROSSMAN: I don't. Do you want to fill me
6 in?
7 MR. SILVERMAN: Yes. All right.
8 BY MR. SILVERMAN:
9 Q When you talked about sort of de minimis changes,
10 you were, you were referencing the significant impact levels
11 that EPA has designated in determining whether a particular
12 facility will cause a degradation of the environment, even
13 if it doesn't violate standards, is that right?
14 A That's what I was referring to, yes.
15 Q So EPA has certain rules, even when you don't
16 violate standards, where they're concerned that a particular
17 source will use up too much of what's left. Would that be
18 fair?
19 MR. GROSSMAN: Too much of what's left? I
20 don't --
21 MR. SILVERMAN: Too much of the -- will bring the
22 air pollution levels higher and use up that margin between
23 the current conditions and a violation of standards.
24 MR. GROSSMAN: I see.
25 THE WITNESS: That wasn't fully accurate what you

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1 just said.
2 BY MR. SILVERMAN:
3 Q Okay. You tell me.
4 A That -- EPA has that program. It only applies to
5 what they define a major source. So this particular
6 facility is not a major source.
7 Q As a matter of law, it doesn't apply here, but
8 the, when you used, I think it was .3 micrograms per meter
9 as being, as being the level of significance for a change --
10 A I used it as an example of how EPA has defined
11 Level 2 PSD, which this region would be, what they've
12 defined as being a significance level for PM 2.5 annual
13 concentrations.
14 Q I'm sorry for the acronym. I don't -- SIL, that's
15 significant increment, you used that, you're using that to
16 say that this particular change is not significant, is that
17 not correct?
18 A I simply was trying to -- in response to Parks and
19 Planning staff, they suggested why don't you, in presenting
20 information, make it clear what -- what does EPA consider to
21 be a significant versus insignificant level of a pollutant
22 such as PM 2.5. And so in that context, we used that
23 particular example as here's an example of how EPA has
24 defined what's significant and what's not. We're not saying
25 that PSD applies, because it doesn't. We're just using it

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1 as a reference point.
2 Q A reference point. And the significant increment
3 is the reference point you use?
4 A That's correct.
5 Q Are you aware of the case of Sierra Club versus
6 EPA, decided by the United States Court of Appeals for the
7 District of Columbia on January 23rd, 2013?
8 A What does this pertain to?
9 Q It's about PSD and SIL, prevention of significant
10 deterioration and significant incremental levels.
11 A I haven't seen that document.
12 Q Do you know or have you read in the trade papers
13 that, that EPA has withdrawn its numbers for significant
14 incremental levels?
15 A I, I haven't seen these documents. I don't know.
16 Q Okay.
17 MR. SILVERMAN: Now, Mr. Grossman, do cases like
18 that have to be put in the record, or is the citation
19 sufficient?
20 MR. GROSSMAN: Well, it is sufficient to have the
21 citation if you're citing it for a legal conclusion. If
22 you're citing it for some factual material in some way, I
23 guess you'd want to have the copy in the record, but --
24 MR. SILVERMAN: Well, I will, I will make that
25 available to all parties by e-mail, and I'll bring it in the

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1 next time.
2 MR. GROSSMAN: And what is the citation?
3 MR. SILVERMAN: I don't have the F.3d, but it's
4 Sierra Club versus the EPA, and it was handed down January
5 23rd, 2013.
6 MR. GROSSMAN: And do you have the F cite?
7 MR. SILVERMAN: I do not. I --
8 MR. GROSSMAN: Okay. Or U.S. App. D.C.?
9 MR. SILVERMAN: I think --
10 MS. CORDRY: I should be able to get it in a
11 moment.
12 MR. SILVERMAN: Yes, my abled colleague here
13 will --
14 MR. GROSSMAN: You're saying it's the U.S. Court
15 of Appeals for the D.C. Circuit?
16 MR. SILVERMAN: U.S. Court of Appeals for the D.C.
17 Circuit, yes, sir.
18 MR. GROSSMAN: Okay. And what's the proposition
19 for which you're citing it?
20 MR. SILVERMAN: The proposition is that the number
21 of what's significant or what's de minimis in terms of an
22 increase in increment does not violate the air quality
23 standards but that that -- that number that Mr. Sullivan
24 referenced is no longer operative, and what the new numbers
25 will be we don't know, but that was withdrawn by EPA.

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1 MS. CORDRY: I can tell you this much, and I'll
2 see if I can find a better cite. It's No. 10-1430 --
3 10-1413, decided January 22nd. I'm still not finding it.
4 MR. GROSSMAN: January 22nd or 23rd?
5 MS. CORDRY: 22nd.
6 MR. SILVERMAN: Oh.
7 MS. CORDRY: 1/13, it looks like. Let me try it
8 on Lexis.
9 MR. GROSSMAN: Okay. But it should be --
10 MR. SILVERMAN: It should be. It should be, yes.
11 MR. GROSSMAN: -- since it's a January case, you
12 should have --
13 MS. CORDRY: I'm -- yes.
14 MR. GROSSMAN: -- the cites should be available,
15 the full cite should be available.
16 MS. CORDRY: Yes. Let me look.
17 MR. SILVERMAN: My LexisNexis last night kind of
18 blinked out. So --
19 MR. GROSSMAN: All right.
20 MR. SILVERMAN: -- but I'll, I'll have it.
21 BY MR. SILVERMAN:
22 Q So you say the prevention of significant
23 deterioration is not an applicable rule of law, but you do
24 rely, would it be correct to say, on the significant
25 incremental levels in saying that this is not significant

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1 but this is de minimis? Would that be right?
2 A I think rely is too strong a word. What I said
3 was, I used that .3 value as an example of what EPA has used
4 to define significance. And in terms of did that affect my
5 modeling that I've done, no, it did not. It was simply a
6 point of reference to compare the .01 to some defined
7 significance level. That's all it was.
8 Q Now, the doctrine prevention of --
9 MR. GROSSMAN: Do you challenge that --
10 MR. SILVERMAN: What's that?
11 MR. GROSSMAN: -- that proposition, by the way?
12 The witness says he wasn't citing it as something that has
13 to be relied on here per se, that has now been overturned as
14 an EPA standard, but just for a basis for comparison; it's a
15 value that EPA did use, and his is so far under that as to
16 be a diminishing number.
17 MR. SILVERMAN: Well, if there is --
18 MR. GROSSMAN: I mean, do you --
19 MS. CORDRY: I would say, one, let me give you the
20 cite, which is 705 --
21 MR. GROSSMAN: Hold on one second. 705?
22 MS. CORDRY: Yes. F.3d 458.
23 MR. GROSSMAN: 458?
24 MS. CORDRY: Correct.
25 MR. GROSSMAN: Okay.

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1 MS. CORDRY: And I think if you read the case, you
2 know, it deals with the question of is it truly de minimis,
3 has it been revoked, why does EPA not use that number
4 anymore. So I think it is a meaningful --
5 MR. GROSSMAN: Well, he was using it as .3 versus
6 -- what's the --
7 THE WITNESS: 0.01.
8 MR. GROSSMAN: Versus 0.01.
9 MS. CORDRY: I understand, but --
10 MR. GROSSMAN: That's such a massive distinction
11 that -- that's not a valid point, you don't think?
12 MS. CORDRY: Perhaps not. Perhaps not after
13 reading the opinion.
14 MR. GROSSMAN: Okay.
15 MR. SILVERMAN: Yes. I mean, really --
16 BY MR. SILVERMAN:
17 Q You indicated that for some of the pollutants,
18 that the gas station would result in using up maybe 25,
19 bringing us closer to violations by 25 percent or 32
20 percent. You used some -- is that correct?
21 A I showed an example of changing what the --
22 changing the queue would take us from 28 to 32 percent based
23 upon modeling only, without background. That's what I said.
24 Q Right. And isn't the idea of prevention of
25 significant determination to leave some room between the

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1 current conditions and violations so that the economy can
2 develop properly?
3 A As I mentioned, prevention of significant
4 deterioration has nothing to do with small sources of this
5 nature. It's just apples and oranges.
6 Q Well, you were the one who brought in, you -- I
7 think you had PSD on one of your slides, and you brought in
8 the SIL, and so I, that's why I -- you used it sometimes,
9 but obviously it doesn't, I agree with you, it doesn't apply
10 as a matter of law. It's just whether the principle can be
11 used and whether it's a good principle to follow. And so --
12 A What principle?
13 Q The principle that you should be chary of using up
14 such the distance between your current conditions and
15 violation, that you should be very careful about doing that,
16 particularly when you're, when you're jumping it by 25 or 30
17 percent. That's the principle. Do you think that's
18 correct?
19 A Is that a question? I'm sorry.
20 MR. GROSSMAN: Well, I think that --
21 BY MR. SILVERMAN:
22 Q No. I answered your question.
23 A Oh, okay.
24 MR. GROSSMAN: Yes. But are you suggesting that,
25 that the proposed gas station would jump the distance by 25

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1 or 30 percent?
2 BY MR. SILVERMAN:
3 Q Well, didn't you testify to that?
4 MS. CORDRY: It clearly does.
5 THE WITNESS: No. I mean, I testified to the fact
6 that the eight-hour CO was at 28 percent, based upon
7 modeling, of a standard and it would go up to 32 percent of
8 the standard.
9 MR. GROSSMAN: But what portion of this is the gas
10 station, is related to the gas station's predicted
11 operations?
12 THE WITNESS: It's a small percentage, and it
13 varies by pollutant and averaging time, but I had slides
14 earlier that showed --
15 MR. GROSSMAN: Right.
16 THE WITNESS: -- those bar charts that showed the
17 background and the increment. It's quite small, the
18 increment from Costco.
19 MR. GROSSMAN: Yes. That's why -- I just want to
20 make sure we don't have a disconnect on what the evidence is
21 here. As a proposition, okay, we can agree, you have to be
22 chary about, about using up any space you have between
23 existence and a violation, but his, his evidence, as I
24 understood it, is that the proposed gasoline station is a
25 very, very small sliver of that distance. That's his --

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1 MS. CORDRY: I think that was with --
2 MR. GROSSMAN: -- I think, his evidence. Am I
3 wrong, Ms. Cordry?
4 MS. CORDRY: His evidence is with respect to PM
5 2.5, Your Honor.
6 MR. GROSSMAN: Pardon me?
7 MS. CORDRY: That was his evidence with respect to
8 particulate matters 2.5. There are --
9 MR. GROSSMAN: Right.
10 MS. CORDRY: -- several other pollutants, and if
11 you look at those, I think you will see -- and we can deal
12 with this more through our own evidence -- that it uses up a
13 great deal of the distance between the background and the
14 standard.
15 MR. GROSSMAN: Are you talking about with the CO
16 and the nitrous dioxide?
17 MS. CORDRY: For instance, the -- yes. For
18 instance, the CO -- let's see, this would be like on his
19 Slide 36 -- the CO standard for eight hours is 10,000, for
20 instance, and the background is 1145, so about 10 percent.
21 The amount that's added at the pool and the school is three
22 times the background and brings you up to 45 or 47 percent.
23 So that is a large -- that is not an insignificant change.
24 That is tripling the background level, 300 percent of the
25 background level, and brings you to 50 percent of the total

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1 maximum before you're in violation of the standard. So,
2 yes, I think our position would be --
3 MR. GROSSMAN: Okay. That's --
4 MS. CORDRY: -- that that is not an insignificant
5 number.
6 MR. GROSSMAN: That would be a more significant
7 move for sure. I understand your position about that. Is
8 that an accurate summary of your testimony as far as CO is
9 concerned?
10 THE WITNESS: You're referring to the eight-hour
11 CO value?
12 MS. CORDRY: Right --
13 THE WITNESS: Okay.
14 MS. CORDRY: -- I'm showing that chart right
15 there.
16 THE WITNESS: Well, what this is showing here is
17 the background is 1145 --
18 MS. CORDRY: Yes.
19 THE WITNESS: -- and that at the school, the pool,
20 and the home it's going to within what, 33 to 47 percent of
21 the standard. So yes, it clearly went up, but the
22 protective standard is 10,000.
23 MS. CORDRY: I understand, but the question was,
24 is it an insignificant increase, and our point was --
25 MR. GROSSMAN: Right. I mean, I --

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1 MS. CORDRY: -- that that is not the same kind of
2 insignificant increase.
3 MR. GROSSMAN: That's fair. It's not as
4 insignificant as the particulate matter --
5 MS. CORDRY: It's not at all insignificant.
6 MR. GROSSMAN: -- it's, if I understand correctly,
7 but it's still well below the, it's well below --
8 MS. CORDRY: Well --
9 MR. GROSSMAN: -- the standard, but it is not
10 insignificant. I --
11 MS. CORDRY: But that gets --
12 MR. GROSSMAN: -- think that's a fair point.
13 MS. CORDRY: Right, which gets back to the PSD
14 concept.
15 MR. GROSSMAN: Okay. All right, fair enough. All
16 right, thank you.
17 MR. SILVERMAN: Yes.
18 BY MR. SILVERMAN:
19 Q Let me go back to the relationship between
20 distance and levels of risk to receptors. If, for PM 2.5 or
21 for CO, if you have a major source and it's 400 feet away
22 from a receptor and then you move it 200 feet closer, does
23 the receptor experience twice as much pollution or more?
24 A It depends.
25 Q On what?

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1 A Depends on the nature of the source, how it's
2 released, what the height of the release is, what buildings
3 are around it, dispersion conditions. It depends.
4 Q Could you postulate the simplest case so that we
5 just get, develop the principle? You don't agree to the
6 principle that for certain pollutants the closer you are,
7 the worse the impact. Do you agree with that, or you don't
8 agree with that?
9 A For certain sources --
10 Q Yes.
11 A -- the closer you are, the greater the impact?
12 Q Yes.
13 A I do agree with that.
14 Q Okay.
15 MR. GROSSMAN: I think the distinction he made is
16 if it's, for example, a smokestack --
17 MR. SILVERMAN: Right.
18 MR. GROSSMAN: -- it may be at a much higher level
19 instead of the --
20 MR. SILVERMAN: Much, yes, much --
21 MR. GROSSMAN: So that's a little different.
22 BY MR. SILVERMAN:
23 Q Let's talk about ground-level pollution because
24 that's what we're talking about. By ground level, I mean,
25 you know, one to 10 feet --

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1 MR. GROSSMAN: Okay.
2 BY MR. SILVERMAN:
3 Q -- or zero to 10 feet. And does, does the impact
4 vary -- what's the right word? I forgot my math -- vary
5 proportionally, or does it vary logarithmically or something
6 between?
7 A Well, that depends too. I mean, how -- I mean,
8 how it drops off with distance?
9 Q Yes.
10 A It depends on the meteorological conditions at the
11 time.
12 Q Right. Well, as a general rule, do you -- well
13 given, given the same meteorological conditions, let's say
14 they're fairly calm, given the same conditions, if you move
15 50 percent closer, does the dose, your word, does the dose
16 increase by 50 percent or does it increase by more?
17 A Again, it depends. I mean, if it's stable
18 conditions without much mixing in the atmosphere, as you
19 change there's less of a change in distance. If it's
20 unstable conditions, like will happen a lot at the mall
21 during daytime sunny conditions, with light winds, it'll
22 change very rapidly. So it really, it really depends upon
23 the conditions you're talking about.
24 Q It's not necessarily just proportional; it could
25 be, it could be logarithmic?

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1 A It won't be necessarily linear, correct.
2 Q It will not be linear. That's the word I'm
3 looking for. Thank you. Thank you. It's been a while
4 since I've done math. Yes, it's not, it's not necessarily
5 linear; it could be more severe as you get closer?
6 A Or it could be less.
7 Q Or it -- right. Okay. So distance counts?
8 A Well, certainly, concentration for any source is a
9 function of distance from the source and height above the
10 ground, exactly.
11 Q Is there any distance from this station that you
12 think would cause a problem for people, the receptors?
13 MR. GROSSMAN: I'm not sure what you mean by cause
14 a problem. Can you hone that question a little bit?
15 MR. SILVERMAN: Yes.
16 BY MR. SILVERMAN:
17 Q Would the risks -- well, let's see.
18 MR. SILVERMAN: Give me a second.
19 MR. GROSSMAN: Sure.
20 BY MR. SILVERMAN:
21 Q Well, I'll just say simply, is there any distance
22 from this gas station that you would consider unsafe? If a
23 person were two feet away for eight hours a day, would that
24 be unsafe?
25 A Assume they lived next to the --

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1 Q Right next to it.
2 A -- island at the gas station?
3 Q Yes.
4 A Well, we didn't have receptors, you know, quite
5 like, quite like that, but if you look at the plots that we
6 did show -- and those plots are based upon rural conditions
7 which really wouldn't apply within the gas station complex
8 -- I don't recall seeing any concentrations that were above
9 the standards at any location.
10 Q That were above the standard? Oh, okay. So that
11 when Costco had put in some testimony, which -- the
12 relevance of which was a question, if they have large gas
13 stations like this 50 feet from people, you wouldn't, you
14 wouldn't consider them unsafe?
15 A Well, is your -- to clarify your question, if
16 you're asking me would I, do I believe that if, if a
17 residence was 50 feet from the Costco gas station, would it
18 meet the National Ambient Air Quality Standards and would be
19 less than 10 in a million, then my answer would be it would
20 meet those, those criteria.
21 Q Okay. All right. Getting back to MOVES and
22 MOBILE6, you threw in some factors for the, to account for
23 the potential differences, a 2.5. You divided things by
24 2.5. Is that, did I get that right?
25 A We increased the emission rates by 2.5 --

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1 Q Right. Okay.
2 A -- for idling sources.
3 Q Right. Did you use that 2.5 factor all along?
4 Suppose, for example, there was significant idling by trucks
5 on the ring road trying to get into the loading docks. Did
6 you use that 2.5 for the ring road?
7 A We didn't explicitly put it in there, but as I
8 mentioned, the gasoline delivery trucks, we used a higher
9 emission rate. We used the 2013 fleet rather than the clean
10 diesel. So in that context, we do have a factor in there,
11 which could be on the order of 2.5.
12 Q You didn't explicitly use that 2.5 for problems
13 along the ring road -- stalling, not stalling, idling along
14 the ring road?
15 A We didn't model idling on the ring road.
16 Q You don't anticipate any idling on the ring road?
17 A We modeled the free flow, 15 miles an hour on the
18 ring road.
19 Q Okay. And if evidence should be brought forth
20 that that's not the case, that there is significant idling
21 and congestion on the ring road at certain times of day,
22 that would, that would have, that would suggest your model
23 doesn't quite capture the real situation?
24 A Well, if that information became available, I'd
25 consider it.

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1 Q Okay. Let's see.
2 MR. GROSSMAN: Do you have an expert who's going
3 to testify to that, Mr. Silverman?
4 MR. SILVERMAN: We have eyewitnesses. I --
5 MS. CORDRY: I think that would be a fact witness,
6 not an expert witness.
7 MR. SILVERMAN: Yes.
8 MR. GROSSMAN: Pardon me?
9 MS. CORDRY: I think that would be a fact witness,
10 not an expert witness.
11 MR. GROSSMAN: Right, I understand.
12 MR. SILVERMAN: I liked Mr. Gang's expression,
13 they never invited him to go up there. I'm sure if he had,
14 he would -- well, I'm not sure and he might have testified
15 differently. So we'll have people who have been invited.
16 Excuse me while I fumble with papers.
17 MR. GROSSMAN: Certainly. That's a requirement in
18 this case.
19 MR. SILVERMAN: Is it?
20 MR. ADELMAN: I think so.
21 BY MR. SILVERMAN:
22 Q Oh, yes. You are showing decreases in most air
23 pollutants over the years, is that correct?
24 A I had a slide on that, yes.
25 Q Yes. And yes, I -- you probably take some pride

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1 that you had something to do with making that happen.
2 A Well, I guess that didn't cross my mind when I
3 brought it up. I mean --
4 Q Yes.
5 A -- I have helped some on air toxics. I don't take
6 much credit for the reduction in air pollutants.
7 Q All right. But did you know that, that asthma
8 rates among children are going up? Did you know that?
9 A I don't know that.
10 Q Okay. Well, we'll have some evidence on that.
11 There's one part of yours which --
12 MR. GROSSMAN: Will the evidence include a source
13 of that if that's in fact the case?
14 MR. SILVERMAN: Yes. Yes, we will have a source,
15 and we'll try to circulate that source beforehand. And an
16 expert, we'll have a couple of experts on that.
17 MR. GOECKE: And I'm sorry. Did he, I was just
18 going to ask, are they going to provide new documents to
19 support this?
20 MR. GROSSMAN: Yes, that's my question.
21 MR. SILVERMAN: Yes, we will, we will provide,
22 we'll provide, we'll provide a reference and the document,
23 sure.
24 MR. GROSSMAN: No, but the point is that it's
25 supposed to be provided in advance.

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1 MR. SILVERMAN: Well --

2 MR. GROSSMAN: If an organization provides an

3 expert opinion and documentation of some --

4 MR. SILVERMAN: Well, I --

5 MS. ROSENFELD: Mr. Grossman, I think the evidence

6 has already been filed. I believe it's already in the

7 record.

8 MR. SILVERMAN: Yes.

9 MS. ROSENFELD: And certainly our --

10 MR. GROSSMAN: Okay. I just want to make sure

11 that --

12 MS. ROSENFELD: -- certainly our experts have been

13 identified and their testimony has been exhaustively

14 covered. So --

15 MR. GROSSMAN: Okay. I just want to make sure

16 that we're fair to all sides here and --

17 MR. SILVERMAN: Right.

18 MR. GROSSMAN: -- and that nobody's surprised.

19 MR. SILVERMAN: All right.

20 MS. ROSENFELD: Surprise has been another frequent

21 element in this case.

22 MR. GROSSMAN: I don't think so. I think -- are

23 you referencing the fact that the plans have changed in the

24 course of this? I don't think there's been surprise. I

25 think that the evidence that came in led the applicant to

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1 try to adjust the plans. Whether or not that's ultimately

2 going to happen given staff's take on it and all that, I

3 don't know, but I don't think there was any -- I think that,

4 as far as I can tell thus far from the applicant, they've

5 been pretty open about supplying copies of everything and

6 making sure that you've had, you know, ample advance warning

7 of what they were doing. Am I wrong about that, and do you

8 want to point me to a --

9 MS. ROSENFELD: Maybe it's just a question of

10 perception.

11 MR. GROSSMAN: Well, point me to a problem that

12 you've had. I mean, I try --

13 MS. ROSENFELD: Well, trying --

14 MR. GROSSMAN: -- I mean, I think I take pains --

15 MS. ROSENFELD: -- trying to testify on changed

16 plans when we don't even have a copy in front of us.

17 Ultimately they were provided, but you know, we were --

18 MR. GROSSMAN: Well, they were --

19 MS. ROSENFELD: -- verbally advised as to what the

20 changes would be, were going to be, and the expectation was

21 that we would be cross-examining witnesses on those. So,

22 with that --

23 MR. GROSSMAN: Well, we did make sure that you had

24 copies of those plans and that the changes, although I don't

25 consider them immaterial, were not the kind that would have

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1 prevented a cross-examination. And we certainly have a

2 hearing that's going over, on over many days; so there's

3 ample opportunity to cross-examine any witness who testified

4 regarding any of those plans and to call them back if need

5 be. So I think that, that, you know, it's not fair to make

6 the assertion that you've been surprised and, in some way,

7 prejudiced by it. If you are, you should let me know.

8 MS. ROSENFELD: And I'm not suggesting that. I

9 mean, we certainly have had a good chance to cross-examine,

10 but it has been a moving target.

11 MR. GROSSMAN: That sometimes happens in hearings

12 like this, and as I said, I think when there was a change in

13 plans, I think that it's a tribute to the opposition that

14 you have been able to marshal evidence or, by

15 cross-examination, make your points that maybe there should

16 be some changes in plans. So, you know, it's appropriate

17 that there be changes if they would improve the situation.

18 In any event, getting back to -- if your documents

19 that you're going to supply are already, have been supplied,

20 that's great.

21 MR. SILVERMAN: Okay. Thank you.

22 MR. GROSSMAN: Okay.

23 BY MR. SILVERMAN:

24 Q Going back to, to the wall, does the wall effect

25 the movement of pollutants?

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1 A It could under some circumstances. I've already

2 testified on that that in the big scheme of things, I didn't

3 think the wall was terribly significant in terms of

4 transport or dispersion of pollutants in this case.

5 Q Yes. And did you also say that the wall might

6 deflect some of the pollution away from the homes and

7 towards the mall? Did you say that?

8 A I said earlier that -- and I think you pointed it

9 out -- if the top of the plume is higher than that small

10 rise in the ring road, that possibly it could have some

11 deflection characteristics during -- but that would only

12 really, in my view, apply if the mall had what we call

13 stable conditions, restrictive dispersion, and based on the

14 analysis I've done, it really is unlikely to have that.

15 Q So the wall will not deflect pollution from the

16 Kensington Heights neighborhood?

17 A I, I do not expect significant deflection from

18 that wall. It could happen under certain conditions. I'm

19 not convinced those conditions will happen.

20 Q What is restrictive diversion?

21 A Referring to the fact that when you have light,

22 light winds at night, clear skies, the surface of the earth

23 can cool substantially and it can create what's called an

24 inversion, meaning that it's very cold at the bottom and

25 warmer as you go up. Under those conditions, a plume of

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1 pollution will not mix very much; it'll stay pretty
2 concentrated. And that condition happens in natural
3 surfaces. It's very unlikely to occur in a warm surface
4 with a tremendous amount of concrete and cement such as the
5 mall. And, you know, we, although I acknowledge it's a
6 limited study, we did evaluate those conditions and, as
7 expected, confirmed that the mall was much warmer than the
8 surrounding conditions and would be very unlikely to produce
9 that type of condition.

10 Q And did you do any modeling for, for inside the
11 mall, not inside the building, but inside the parking lots?

12 A We did.

13 Q You did?

14 A We did.

15 Q Could you reference that for me?

16 A What do you mean by reference that?

17 Q Where can I -- yes. Could you point to me where,
18 for example, you modeled PM 2.5 for the inside of the mall,
19 the area next to the gas station, not the building, but the,
20 but the, let's say --

21 A Right.

22 Q -- the tire facility or parking areas right
23 adjacent to the proposed gas station?

24 A I'm going to read from page 28 in the November
25 2012 report, and it's -- the titling of that section is

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1 Receptor Grid, and what it says here is: For the 24-hour
2 and annual risk assessments, only the residential areas
3 outside of the Westfield Mall buffer zone are applicable.
4 The modeling results, however, show all receptors for all
5 averaging times to further support review.

6 So we had 8100, 8100 grid receptors and 16
7 discrete receptors. We didn't remove any receptors where
8 the mall was. This statement simply said that we do not, in
9 our judgment, feel that those averages apply on a 24- or
10 annual basis because nobody spends all year or all day on
11 that property, but we showed the results. It's shown in all
12 the figures. It's shown in our -- if you don't agree, you
13 can look at our receptor files, the root files for AERMOD.
14 It shows, it shows 90-by-90 grid; every 25 meters we have a
15 receptor. There's no subtraction for the mall.

16 Q I want to ask you about grilling hamburgers. I
17 had a cheeseburger for lunch. So I feel guilty.

18 A Shouldn't have done that. There may be a lot of
19 pollution.

20 MR. GROSSMAN: I feel jealous.

21 MR. SILVERMAN: Right.

22 BY MR. SILVERMAN:

23 Q So you were very careful to say you're not
24 accusing McDonald's of anything, but do you regard those
25 levels produced by, by these fast-food places as a matter of

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1 concern? Do you regard them as concerning?

2 A You mean -- well, assuming all else is equal --

3 Q Yes.

4 A -- and we discussed earlier, as Mr. --

5 Mr. Grossman did point out that they have vents, and we
6 discussed that, but the dilution, there's probably more
7 dilution from those, but if you had a concentration 60 times
8 higher than .01, would that be a cause for concern? Well,
9 if it's, if background is 10.8 and you added a .6, you'd be
10 at 11.4. It's under the standard. So in that context, you
11 wouldn't expect to have an issue. As I pointed out very
12 carefully, I'm not saying that these fast-food restaurants
13 are causing a health risk.

14 MR. GOECKE: Based on their emissions.

15 THE WITNESS: Based on their emissions. The food
16 may be a different matter.

17 BY MR. SILVERMAN:

18 Q Probably a good point. Did you include those
19 fast-food restaurants in the background concentrations, or
20 how do you account for them in your, in your earlier
21 calculations as to what the background is?

22 A Well, as I mentioned, we accounted for background
23 based upon the EPA standard methodology of adding any
24 conservative regional monitoring. So, clearly, we did not
25 model each of those 56 fast-food restaurants in the area.

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1 Q Do you know what a child at the Stephen Knolls
2 School is breathing, in terms of the pollutants we're
3 talking about, every day?

4 A Well, I mean, we have made estimates based upon,
5 as I mentioned, standard practice and have modeled
6 operations and modeled the Georgia Avenue, which
7 significantly affects the school, and the ring road as much
8 as we could, and that certainly gives an indication of what
9 their exposures are.

10 Q You took no measurements at the steps of the
11 school or --

12 A I'm not aware of measurements that were taken at
13 the school.

14 Q Has Costco invested any money in sort of trying to
15 get a sense of what a person in the neighborhood, at the
16 school, at the pool, what they're actually breathing on a
17 day-to-day basis as they go in and out the McDonald's and
18 fill up their car and walk past the gas station and so
19 forth? Did you do any monitoring of individuals to see what
20 their, the actual dose was, not projected or modeled, but
21 actual? Have you done any of that?

22 MR. GOECKE: I'm going to object. I think there's
23 a few questions in there. He's already testified that
24 Costco spent significant amounts of money modeling this
25 situation and that they have not taken any personal air

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1 monitoring samples.
2 MR. GROSSMAN: Well, it's a bit repetitive, but he
3 can answer the question. So I'll overrule.
4 THE WITNESS: You know, Costco has not done any
5 personal -- you're referring to personal monitoring? It has
6 not --
7 BY MR. SILVERMAN:
8 Q Or any other actual measurements.
9 A Well, certainly we have taken noise measurements,
10 odor measurements in the neighborhood, and conducted an
11 exploratory meteorological assessment of the Wheaton Mall
12 area. So in that context, yes, some measurements have been
13 taken.
14 Q But not of air quality parameters?
15 A No.
16 MR. GROSSMAN: Mr. Silverman, has the opposition
17 taken any measurements --
18 MR. SILVERMAN: No, we have not.
19 MR. GROSSMAN: -- physical measurements?
20 MR. SILVERMAN: No, we have not, but we're -- we
21 have neither the burden nor the cash, but we're considering
22 it because I think somebody should have. I mean, that's
23 what I think, and I think it should have been, if you ask
24 me.
25 MR. GROSSMAN: Well, I just wanted to know, get an

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1 idea of what the evidence --
2 MR. SILVERMAN: Yes. Yes. Right, yes.
3 MR. GROSSMAN: -- is, and I have to go by what the
4 evidence is.
5 MR. SILVERMAN: Right.
6 MR. GROSSMAN: Okay.
7 MR. SILVERMAN: Well --
8 MS. CORDRY: Well, if he spent \$370,000, I can
9 guarantee you, as the treasurer of Kensington Heights Civic
10 Association, we do not have \$370,000.
11 MR. GROSSMAN: Yes, but the question I have to
12 deal with is what the evidence is that's presented to me.
13 So --
14 MS. CORDRY: I understand, and we're just
15 clarifying at this point what has and hasn't been done.
16 MS. ROSENFELD: And we don't have the burden of
17 proof.
18 MR. GROSSMAN: I understand, but I still have to
19 look at the evidence.
20 MS. ROSENFELD: I understand.
21 MS. CORDRY: I understand.
22 MR. SILVERMAN: Well, I appreciate the fact that
23 you're looking at the evidence. You're probably the first
24 person we've dealt with in the last three years who is.
25 So --

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1 MR. GROSSMAN: I don't know that that's fair, but
2 it'll be my job to do it.
3 MR. SILVERMAN: Okay. All right.
4 BY MR. SILVERMAN:
5 Q If you go through the screening and you find
6 there's risk factors, the fact that -- and the risk factor
7 is just proximity; you know, in the, in the guidelines they
8 talk about 1,000 feet for schools, and then CARB talks about
9 300 feet and so forth -- is it an aggravating factor or
10 mitigating factor that there are 57, whatever it is,
11 fast-food restaurants in the same vicinity? Does that
12 suggest the conditions are worse or better?
13 A Does it suggest if the fast-food restaurants were
14 not there, would the air pollution be better?
15 Q Yes.
16 A I would, I can say that's a fair assessment.
17 Q And the fact that we're in, we're close, we're
18 either in violation or close to violation on Georgia Avenue
19 and Veirs Mill Road, would that be an aggravating factor or
20 a mitigating factor?
21 A You're asking me does Georgia Avenue produce a
22 fair amount of air pollution?
23 Q Yes.
24 A The answer is yes, it does.
25 Q And, you know, in your discussion of air pollution

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1 in the home and in the fast-food restaurants, there's a,
2 there's a suggestion -- maybe I misunderstood you -- that
3 it's already polluted, so we're just adding a little bit.
4 Is that your view?
5 A I didn't say that.
6 Q Okay, good. I've been at this even longer than
7 you have, in a different way, but have you ever been to a
8 pollution hearing where a source didn't say we're just a
9 small part of the problem?
10 A No, I've worked for clients that acknowledged they
11 had caused a major problem --
12 Q Okay.
13 A -- and were trying to, obviously, make sure they
14 got a fair settlement in terms of legal matters, but yeah, I
15 worked for a client two years ago, and they acknowledged
16 they made, they had a problem, and they ended up paying a
17 lot of money for it. So the answer is yes, I've seen
18 clients that acknowledge their mistakes.
19 Q That's very heartening. That's very -- I haven't
20 quite had that experience, but I'm glad you have.
21 MR. SILVERMAN: All right. I think I'm going to
22 stop and leave it to Ms. Rosenfeld.
23 MR. GROSSMAN: All right. Ms. Rosenthal, are you
24 next up?
25 MS. ROSENFELD: It would seem as if I am.

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1 BY MS. ROSENFELD:
2 Q Earlier in, actually in the very beginning -- I
3 just want to make sure I understand the status of the
4 reports. Your November 2012 report, does that contain all
5 of your base data, all of, all of your basic modeling
6 assumptions and your original findings for purposes of this
7 case?
8 A It contains the full scope of our analysis, but
9 the supplemental report that was submitted January 16th does
10 augment that report, clarifies a few tables, and provides
11 some additional information that's relevant to the case.
12 Q Okay. And then the intervening December 2012
13 report -- you had said that there were two reports that were
14 identical -- is that, December 2012, the one that duplicates
15 one of these other two?
16 A The December 2012 was, was replaced by the January
17 16th, 2013, report.
18 Q Okay.
19 A It's the same basic scope. We, we added a few
20 more things and refined it, but we're trying to limit how
21 many reports there were. There's already, obviously, quite
22 a few and we tried to combine them into one report.
23 MR. GROSSMAN: Let's attach exhibit numbers to
24 these, if we haven't already, just so we know --
25 MS. ROSENFELD: I believe --

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1 MR. GROSSMAN: -- which exhibit numbers we're
2 talking about.
3 MS. ROSENFELD: Sure.
4 MR. GROSSMAN: So the November one would have
5 been, the November 2012 would have been 15(a), is that
6 correct? Yes. So 15(a) --
7 MS. ROSENFELD: Correct.
8 MR. GROSSMAN: -- November 2012. And what was the
9 exhibit number for the one in December?
10 MR. GOECKE: I think that's 54(b).
11 MR. GROSSMAN: Okay. Supplemental Report on Air
12 Quality, that's 54(b), was December 2012, and then what was
13 the January one? What's that?
14 MR. GOECKE: 56(a).
15 MR. GROSSMAN: 56(a) is a supplemental report of
16 January 2013, and then it does say it supersedes
17 supplemental report of December 18, 2012. Okay. You may
18 proceed.
19 BY MS. ROSENFELD:
20 Q And so just in reviewing these, we still look to
21 17(a), we completely disregard 54 --
22 MR. GROSSMAN: 15(a).
23 BY MS. ROSENFELD:
24 Q I'm sorry, 15(a). Is, basically, 54(a) out of the
25 record? I mean, it's --

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1 MR. GROSSMAN: 54(b).
2 MS. ROSENFELD: 54(b). It's getting late in the
3 day.
4 MR. GROSSMAN: Yes, it is.
5 BY MS. ROSENFELD:
6 Q 54(b)?
7 A Is that the December 2012 --
8 Q That's the December of 2012.
9 A Right. That could be disregarded.
10 Q That's just been completely superseded?
11 A Correct, yes.
12 Q Okay. And then 56(a) has supplemental information
13 to the original November --
14 A That's the January 2013?
15 Q The January 2013.
16 A Correct, yes, it does.
17 Q Okay. All right, thank you. That's very helpful.
18 There's been a fair amount of discussion about the terrain
19 of the ring road and the adjoining slope to the properties
20 next door, the residential community. If you could take a
21 look in your, this would be Exhibit 15(a), your
22 environmental report, and in there you have a Figure 1-36
23 called Terrain Contours.
24 A Which page would that be?
25 Q Page 103. And if you could take a look at that,

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1 it would be helpful if you could show me on that exhibit
2 where, where you consider the upslope on the ring road to be
3 located.
4 A Well, if you see the portion that says Wall, where
5 that wall is located, if one were to stand along that --
6 Q Hang on.
7 MS. ROSENFELD: Mr. Grossman, do you have the
8 exhibit?
9 MR. GROSSMAN: I'm looking through the file as we
10 speak.
11 MS. ROSENFELD: Okay.
12 MR. GROSSMAN: I think it might be in the box, but
13 -- at least to (c), 15(c). It must be in the box.
14 MS. ROSENFELD: A part of 15(a). There was the
15 report and then there were appendices to it.
16 MS. CORDRY: This is the original report, though?
17 MR. GROSSMAN: Not there.
18 MS. CORDRY: See it?
19 MS. HARRIS: I'm sorry. What? No, we have it
20 here. Thank you.
21 MS. CORDRY: You got it? Okay.
22 MS. HARRIS: At least I think we do.
23 MR. GROSSMAN: I haven't located it yet. We'll
24 have to conduct a search downstairs.
25 THE WITNESS: It's a large report.

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1 MR. GROSSMAN: Pardon me?
2 THE WITNESS: It's a very large report. It's a
3 hundred and, hundred and -- couple hundred pages.
4 MR. GROSSMAN: It's book-size. Maybe for some
5 reason it didn't quite make it up to here from downstairs
6 because I don't see it.
7 THE WITNESS: It's available on the computer. I
8 can show it with the screen if that would be helpful.
9 MR. GROSSMAN: Well, I do not see it here. Do you
10 need to look at the copy now? Is that what you're --
11 MS. ROSENFELD: Well, I can actually save this.
12 I, for the record, I will not be done in 10 minutes. We can
13 save this line of questioning for the next hearing.
14 MR. GROSSMAN: Well, do you need to look at it in
15 order to conduct this questioning?
16 MS. ROSENFELD: Well, I don't, but I'd like for
17 you to be able to look at it.
18 MR. GROSSMAN: Oh, okay.
19 MS. ROSENFELD: And at the same time, there also,
20 along with your November, along with Exhibit 15(a), I think
21 there was a very long appendix.
22 MR. GOECKE: We have a copy of that report that we
23 could project.
24 MR. GROSSMAN: You have an extra copy? All right.
25 So --

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1 MS. ROSENFELD: Oh, terrific.
2 MR. GOECKE: It's not a hard copy. It's
3 electronic, but we can project it if you want.
4 MS. ROSENFELD: Oh, that's fine.
5 MR. GROSSMAN: Okay, then project it. That would
6 be fine.
7 MS. ROSENFELD: Okay, great. Great.
8 MR. GROSSMAN: I have 15(b) and (c), but I don't
9 seem to have 15(a).
10 MS. ROSENFELD: Oh, you do have 15(b), terrific.
11 Before we start these questions, there also was a very large
12 appendix that went with the environmental report, some 404
13 pages, I believe. Do you know if that's in your record?
14 MR. GROSSMAN: I have -- well, that must be also
15 downstairs because I have -- no. That's the vehicle
16 queuing.
17 MS. ROSENFELD: All right. I'll check with your
18 staff because I'll be asking questions --
19 MR. GROSSMAN: Okay.
20 MS. ROSENFELD: -- about that one as well.
21 BY MS. ROSENFELD:
22 Q Is it possible to make that just a little bit
23 larger --
24 A Yes.
25 Q -- on the screen?

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1 MR. COLE: Maybe we can turn down the lights.
2 BY MS. ROSENFELD:
3 Q Okay. And looking at this, which is page -- it's
4 Figure 1-36 of your, of Exhibit 15(a). There are contours
5 shown on this particular exhibit. Would you please show me
6 where and to what extent you see an uprise in the ring road?
7 A It's very difficult to see on a -- there was
8 question how the dip was built over this particular
9 property. To tell from this that slope, in order to really
10 see how the road is actually sloped, you have to be at the
11 facility. I mean, I've been there, I've taken pictures of
12 it and I've observed it, that the road at this location, it
13 has a small dip up towards where the wall will go, and as
14 the -- and if the flow were to go down, down the ring road
15 from that point, the slope, as it approached the school,
16 slopes towards, towards the mall itself and that can be seen
17 by visual observation.
18 Q And so what you're telling me is that the contours
19 are more refined than would be reflected on this topo?
20 A What I'm saying is that to see how a road is
21 sloping, it's very difficult to see the slope of a road
22 through a topographic map of this nature; you really have to
23 see the road slope itself.
24 Q Okay. And then in terms of, do you know if this
25 wall accurately reflects the proposed amendment, or does

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1 this show where the wall would end given the 40-foot,
2 46-foot extension, or do you know?
3 A This was accurate as of November 2012 --
4 Q Okay.
5 A -- but this then changes. We -- it starts by the,
6 approximately the tennis court area up here, which I believe
7 is the starting point that was discussed yesterday or two
8 days ago, and it's ending near the, just past the loading
9 dock right here. So that was, that was accurate during that
10 time of this report.
11 Q Are you saying then that if the road ordinarily
12 would be flat, that it slopes up this way --
13 A Yeah. I'm saying that my, my review --
14 Q -- from north to south?
15 A -- if, if this is, if this is the ring road right
16 here and I'm standing at this point or this location right
17 here and Kensington Heights is that direction, I'm pointing
18 to my right, that the road slopes up slightly in this
19 direction. I'm not saying it's a huge hill or anything.
20 I'm saying there's a slight -- roads usually do slope to
21 avoid puddling -- it slopes, by my review, up a little bit.
22 And so my point was that if there were, if there were
23 cooling at this surface, that, with the exception of if the
24 plume was high enough to go over, my expectation was that it
25 would tend to travel down the ring road with or without the

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1 wall. With the wall in place, certainly you'd expect at
2 least the bottom of the plume and maybe, maybe most of the
3 plume to be deflected during --
4 Q And --
5 A -- if you had stable conditions at night, which
6 I'm saying I don't believe are a common phenomenon at this
7 mall.
8 Q And looking at the southwestern corner of the
9 mall, of the ring road --
10 A Uh-huh.
11 Q -- and heading east --
12 A Right.
13 Q -- just as a general principle, does the
14 topography slope down from there?
15 A This is downhill. It's downhill from this
16 direction towards the east, that's correct.
17 Q Okay. Okay. And --
18 A My testimony was it's downhill and the slope goes,
19 that I reviewed, goes towards the mall itself, rather than
20 towards the school area.
21 Q Can you show me the topo lines that would reflect
22 that?
23 A Well, I'm saying I -- same answer as before. If
24 you're looking at the slope of a road, it's very difficult
25 to see the slope of a road on a topographic map. My

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1 statement is based upon my visual observation of the roadway
2 itself and going out there.
3 Q But if you look up -- take the topo line that's
4 closest to the end of the wall, the purple line.
5 A Okay.
6 Q All right. We'll start there. What topo is that
7 at? What's that topo line?
8 A This is 133 right here.
9 Q Okay. And if you go to the next one on the right?
10 A This one I can't read really. It's 132.
11 Q And the next one?
12 A One thirty-one.
13 Q And the next one?
14 A One thirty, and then it goes down to 127 at this
15 point here.
16 Q Okay. So, generally, that geography there slopes
17 downhill, is that correct?
18 A That's correct. My statement was for the road
19 itself.
20 Q Okay. And when you're talking about the road, are
21 you talking about a matter of inches?
22 A I wasn't able to measure it, and as I said, it
23 wasn't a very large amount, but I -- my observation was that
24 that road sloped in that direction, towards the mall rather
25 than towards the school.

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1 Q And in your view, that slope is sufficient to
2 affect an inversion one way or the other? Is that your
3 testimony?
4 A My testimony, I don't expect to see inversion
5 conditions on this mall.
6 Q I think you said that it could be as much as at
7 least four percent at the time. Am I correct?
8 A You're asking about inversion conditions.
9 Q Right.
10 A My testimony is, based upon my, albeit limited,
11 monitoring measurements taken at this mall property, I do
12 not expect that inversion conditions are a common phenomenon
13 at that mall because it's too high. The retained heat by
14 the concrete is creating temperatures that are warm relative
15 to the surroundings, and the potential of having substantial
16 inversion, infrequent inversions in that condition is very
17 unlikely.
18 Q Okay. Then perhaps I misunderstood your
19 testimony. You seem to think that the fact that the road
20 sloped up some slight amount had an impact on some of your
21 air modeling analysis. Can you explain to me what that was?
22 A Well, the CALPUFF modeling, okay -- and this is
23 probably too small for it to detect -- CALPUFF is not the
24 model we routinely use. You would use it for a few runs, as
25 Dr. Cole knows about. That was run to try to simulate the

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1 terrain. It's such a small factor, it can't do a great job
2 and it can't really account for this wall, and the
3 meteorological processor in, which is CALMET, can't really
4 account for the heat effects of this particular mall.
5 CALPUFF can account for the heating from a source itself,
6 but in terms of defining this, it's not really capable of
7 fully addressing the fact that this surface is much warmer
8 than the ground around it. It's what's referred to as an
9 urban -- it's similar to an urban heat island.
10 MR. GROSSMAN: When you say this surface, you're
11 talking about the mall parking lot?
12 THE WITNESS: The mall itself --
13 MR. GROSSMAN: Right.
14 THE WITNESS: -- is a, is a small heat island
15 surrounded by cooler, like at nighttime, cooler natural
16 surfaces. So it's a very, very different microenvironment
17 than natural surface is.
18 BY MS. ROSENFELD:
19 Q I'm still confused.
20 MR. GROSSMAN: I think what he testified to before
21 was the slight difference -- the slight increase in
22 elevation on the roadway would tend to decrease the flow of,
23 of air over that area and so, I think, decrease the amount
24 of pollutants in that direction. Is that correct?
25 THE WITNESS: That's close. I was saying if, if

1 inversion conditions did occur --
 2 MR. GROSSMAN: Right.
 3 THE WITNESS: -- that that slope of the road would
 4 tend to deflect it away from the community, at least along
 5 that roadway. That's what I stated, but I then stated that
 6 the potential for that inversion condition to occur on a
 7 mall surface like this is small --
 8 BY MS. ROSENFELD:
 9 Q Right. I got that part. I was --
 10 A -- therefore, I don't think it's going to cause
 11 much effect at all.
 12 Q You spent a lot of time talking about the slope of
 13 the road; so I was trying to understand the significance.
 14 And did you account for a wall of any kind in your modeling?
 15 A We attempted to, but the CALPUFF model really
 16 doesn't see the wall. I mean, it's too small of a physical
 17 effect. Really, I don't think it really had any significant
 18 effect on it, nor do I, again, do I think it's going to have
 19 a huge effect on the results in the end. I mean, if
 20 anything, if the -- under inversion conditions, which I
 21 don't think happen, if that did happen, it would tend to
 22 have a deflecting effect going down this direction.
 23 MR. GROSSMAN: This direction being --
 24 THE WITNESS: Being, I'm sorry, to the east.
 25 MR. GROSSMAN: Okay.

1 BY MS. ROSENFELD:
 2 Q Okay. So your conclusion that the wall will have
 3 little effect just is based on your opinion, not on any
 4 modeling?
 5 A Well, the fact that the wall will have little
 6 effect is based upon my review of the evidence of the case,
 7 the fact that I have conducted some limited meteorological
 8 monitoring under, under, what should be inversion
 9 conditions, and observed conditions very different than what
 10 you'd expect to see during inversion.
 11 Q I understand you have analyzed, in your view, the
 12 potential for an inversion. My question is, have you
 13 analyzed the effect of the wall, not specific to inversion,
 14 but just generally?
 15 A And as I mentioned, of course, we've used AERMOD
 16 as our permit model. AERMOD does not consider the wall --
 17 Q Okay.
 18 A -- and in terms of, we ran CALPUFF, we attempted
 19 to simulate the wall, but my judgment is the model probably,
 20 because of the scales it operates on, it probably didn't
 21 have much of a deflecting effect. It probably didn't have
 22 much effect at all, and my testimony is that in the big
 23 scheme of things, I don't think this wall is that
 24 significant a factor in terms of transport and dispersion of
 25 pollutants from the gas station towards the community.

1 Q Did you do any CALPUFF?
 2 A We did run CALPUFF, yes.
 3 Q You did run CALPUFF. And where are those results
 4 shown in your report?
 5 A We, we provided the results by disk, as I recall.
 6 The input/output files should be available by disk only.
 7 Q And are those results contained in the appendix to
 8 Exhibit 15(a), the environmental report?
 9 A Well, the modeling results were included in the
 10 report. In our November 2012 report, we showed, we took an
 11 example month, ran CALPUFF for a month and compared CALPUFF
 12 and AERMOD side by side.
 13 Q And was the wall included or not included in the
 14 CALPUFF modeling?
 15 A Well, as I stated, we attempted to put the wall
 16 in, but my opinion is the model probably didn't see it
 17 because it's too small of a scale effect. It probably
 18 didn't have much influence.
 19 Q You put it in and it wasn't registered, or you
 20 didn't put it in?
 21 A We, we did attempt to put it in. We put it in,
 22 but I don't think it really made much of a difference in the
 23 modeling.
 24 Q And where are those results shown?
 25 A The results of that modeling showed that AERMOD

1 and CALPUFF looked very, very similar.
 2 Q Yes. Did you have the results run with the wall
 3 and without the wall?
 4 A The wall is, the wall is in the results. It's in
 5 the model files, but it does not have a significant effect,
 6 in our judgment, on the results.
 7 MR. GROSSMAN: How do you --
 8 BY MS. ROSENFELD:
 9 Q Okay. And can you tell me exactly where in your
 10 report those results are contained?
 11 A Yeah. Yes.
 12 MR. GROSSMAN: How do you, and while you're
 13 looking for that, how do you enter the wall into the
 14 CALPUFF? How do you take that into account?
 15 THE WITNESS: You have to make it into a terrain
 16 effect, and because it's only eight feet high, which is like
 17 two-and-a-half meters, it really is too small a scale to, to
 18 seem to have much influence.
 19 MR. GROSSMAN: Well, yes, but influence is talking
 20 about the results. How do you enter, what data do you enter
 21 in that model in order to account for the wall?
 22 THE WITNESS: All we, all we can do is increase
 23 the terrain heights along that particular segment to
 24 simulate the wall. That's the only way to really address
 25 that. The model really is not designed to give a small wall

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1 effect. It's more designed for more substantial terrain
2 effects and land/water effects, more larger scale things.
3 MR. GROSSMAN: So you increased the terrain height
4 in the model to eight feet to simulate the wall, or what did
5 you do?
6 THE WITNESS: That's my recollection. I mean, I'd
7 have to really look --
8 MR. GROSSMAN: Okay.
9 THE WITNESS: -- at the files again, but that's my
10 recollection of what we did. Let me see if I can find those
11 results.
12 MR. GROSSMAN: And even that didn't have much of
13 an effect?
14 THE WITNESS: No, it -- we didn't see it but that
15 could be a model, limitation of the model. I'm not trying
16 to suggest that it really saw that to have much influence at
17 all because --
18 MR. GROSSMAN: I guess my question would be what
19 would make you think that a much smaller rise in the road
20 would have that effect?
21 THE WITNESS: Well, it's a situation of, a model
22 is -- what the model can see versus what really happens in
23 the atmosphere.
24 MR. GROSSMAN: I see.
25 THE WITNESS: And so the model, you know -- I'm

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1 saying that if you had an inversion condition happen on the
2 mall, which I don't think will happen, and we have low-lying
3 pollutants from a ground-level source, that the, the road
4 slope would tend to, it would tend to follow the path of
5 least resistance, and I believe that is true --
6 MR. GROSSMAN: Okay.
7 THE WITNESS: -- but whether or not a model can
8 simulate that is another matter.
9 MR. GROSSMAN: All right.
10 BY MS. ROSENFELD:
11 Q And are those results shown on, starting on page
12 377 of the appendix to your November --
13 A My recollection was they were in the -- that we
14 had text in here, showing the side-by-side figures as well,
15 but --
16 Q All right. If you could tell me where that is,
17 I'd appreciate it.
18 A I'm looking for it. Well, I guess I don't. I
19 maybe had it on a slide that I was thinking of, but it's,
20 no, it's not in the text of the report that I can see. We
21 did provide, at one point, I'd have to search for it, a
22 side-by-side figure showing an example month, AERMOD
23 concentrations for that month versus CALPUFF for that month.
24 Q All right. If you locate that, could you let me
25 know where that is?

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1 A I'll make a note. You're asking if I can locate
2 it to --
3 Q Yes.
4 A -- provide it to you?
5 Q Yes.
6 A Yes. And I'll clarify, when we do that, I'll
7 confirm the treatment of the, how the wall was simulated so
8 that'll be clear for the record.
9 Q Great, thank you. At one point, the wall was
10 shown terminating on the --
11 MR. GROSSMAN: I'm sorry. Go ahead.
12 MS. ROSENFELD: No, you're writing. I'll wait
13 until you're done making your notes.
14 MR. GROSSMAN: Right.
15 THE WITNESS: I'm done.
16 BY MS. ROSENFELD:
17 Q At one point, the wall was shown as terminating at
18 the, basically where the eastern wall of the Costco
19 warehouse ends.
20 A Uh-huh.
21 Q Were you familiar with that design?
22 A I just don't recall. I mean, I recall this is
23 what was our understanding of where the wall would be placed
24 in November when this report was, was produced. If there's
25 been changes to that, I don't recall those at this point.

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1 Q So you wouldn't know why, why it was shortened?
2 A I don't know.
3 Q And do you know why it's subsequently been
4 extended?
5 A I just don't recall the --
6 Q Let me ask you this question: Are you aware of
7 the fact that there's a proposed amendment that would extend
8 the wall an additional 46 feet to the east?
9 A I've heard there's a consideration. I didn't
10 think that was, had been decided yet, but I've heard, I've
11 heard that discussed, yes.
12 Q The amended plans have been submitted --
13 A Okay.
14 Q -- so it's a possibility. In your opinion, would
15 that extended wall affect your modeling results in any way?
16 A No, they will not -- that would not have any
17 effect on our modeling results. We have done the comparison
18 of CALPUFF/AERMOD, which confirmed that AERMOD was the
19 suitable model of choice, and AERMOD doesn't see the wall.
20 So I'd say it would have no effect on the modeling.
21 Q After the January 16th report that you filed,
22 Exhibit 56(a) in the record, you had filed some supplemental
23 correspondence with the Planning Board and your PowerPoint
24 that you've reviewed over the last couple of days. Did any
25 of those include new modeled information, anything, any

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1 modifications to the modeling that you did in your January
2 16th report?
3 A You're asking me did I change the modeling between
4 January 16th of 2013 --
5 Q Right. Have you done --
6 A -- I see the date is listed as '12, but it's
7 '13 --
8 Q Have you done any --
9 A -- to the present time?
10 Q Have you done any supplemental modeling since
11 January 16th?
12 A I can't recall any, no.
13 Q Was the addition of the parking lots in your
14 January 16th report?
15 A Oh, we -- no. We did do a, I'm sorry, we did do
16 a, various, you know, brief assessment of the other public
17 parking lots and the two loading docks. We did that special
18 case run, that is correct. That was done after this report,
19 but these, these numbers and the conclusions and the figures
20 in this, in this report have not been modified by any
21 subsequent modeling.
22 Q Where is that special case run contained?
23 A The special -- the results of the special run are
24 shown in the PowerPoint presentation we've been going
25 through the last few days of the hearing.

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1 Q And where would I find the data in support of that
2 special case run?
3 A We, we can -- we have the data in our files that
4 certainly can be made available.
5 Q If you would please make that available. You did
6 provide your backup data for the other studies. And aside
7 from the report that was submitted after this hearing
8 started, the terrain flow report and then there was
9 additional the, the hamburger report --
10 A We like to call it the fast-food report.
11 Q The fast-food report. The fast-food report, were
12 there any other additional modeling or revisions to, to your
13 November 19 and January 16 -- November 19, 2012, and January
14 16, 2013, reports?
15 A With the exception of the parking lot analysis,
16 which you did bring up, I can't recall any other work that's
17 been done in terms of modeling. As you're aware, the
18 terrain analysis, we did the study, the brief study we did
19 of the meteorological conditions. We did that and that
20 report was submitted, which, I think, maybe you mentioned.
21 That's all I can recall that's been done.
22 Q The modeling that you used for the fast-food
23 report, was it, did it use the same modeling protocols that
24 you used for your, for the two prior reports, the, I'll call
25 -- can I just call them the November and January reports?

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1 MR. GROSSMAN: Yes.
2 THE WITNESS: Well, yes. I mean, we showed
3 emissions, we showed emission rates. And so we showed
4 emission rates from the fast-food based upon the assumptions
5 of how many hamburgers they were making, like McDonald's
6 does, the average McDonald restaurant, and we then showed
7 comparative emission rates from our files that are
8 applicable to the November 2012 report. There were no
9 modifications made to the Costco emission factor rates.
10 BY MS. ROSENFELD:
11 Q And would you also provide the backup data for
12 that report as well, your --
13 A The backup data of the -- are you referring to the
14 actual fast-food report that --
15 Q Right.
16 A -- I mean, the report that was done by
17 UC-Riverside?
18 Q No. No, in support of your, your supplemental
19 report on that point. Did you do any modeling or were you
20 just extrapolating from that --
21 A No. We're using emissions data. All there is, is
22 an Excel spreadsheet that supports the table that we've
23 shown. There's no additional modeling.
24 Q Could we have a copy of that spreadsheet as well,
25 please?

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1 A Okay.
2 Q And going briefly to the Exhibit 125(b), the
3 Exploratory Assessment of Terrain Flow --
4 A Okay.
5 Q -- report that you prepared, would you show me on
6 the exhibit that's on the screen now, the topo map we were
7 just looking at --
8 A Uh-huh.
9 Q -- could you show me where your temperature gauges
10 were located?
11 A It's, it would be easier for me to show it in my
12 report. I showed the precise locations.
13 Q Sure, that would be fine. That would be fine.
14 What page?
15 A Let me bring it up.
16 Q Where the temperature profile was taken.
17 A Uh-huh. We collected measurements on two
18 different nights, April 6th, 2013, and April 26th, and it
19 went into the early morning of the next day in each case.
20 The second evening was more conducive to the, to the
21 formation of inversion conditions, and I'm going to, I would
22 recommend we go to that analysis first.
23 Q Actually, my first question is not about your
24 analysis. I'd like to know where your wind and temperature
25 monitors were located --

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1 A All right. Okay.

2 Q -- on the mall parcel. And were they only on the

3 mall parcel?

4 A No. This is an example from the first, the April

5 9th program, and in this case here, the, the profile was

6 established at the western edge of the paved lot. So the

7 temperature and wind data were collected in this region

8 right here.

9 MR. GOECKE: And this is Figure 7 in Exhibit

10 125(b).

11 BY MS. ROSENFELD:

12 Q Is that listed as No. 72? Are we looking at

13 Figure 6 on page 11 of your report?

14 A I'm on Figure 7 right now.

15 Q Okay. Figure 7.

16 A And I'm showing, this is showing surface

17 temperature at 12:30 a.m. on 4/10. I'm just giving you a

18 general indication of where the, where the monitoring took

19 place, but the wind data at that location was taken along

20 this area here within the asphalt property.

21 We also collected surface temperature measurements

22 at different places within the community. On this location,

23 this is in the wooded area right here, which is just south

24 of the ring road, the southwest corner of the mall property,

25 and this, this example here for the south is taken in

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1 Kensington Heights property. I don't recall what this, what

2 this street is, but it's next to Mount McComas roadway.

3 MR. GROSSMAN: The yellow pushpins indicate the

4 presence of a monitor?

5 MS. SHEVEIKO: Melvin Grove Court.

6 THE WITNESS: Melvin Grove Court, thank you. Yes.

7 Yes. That's -- well, not a monitor, but where we took a

8 surface measurement.

9 MR. GROSSMAN: Where the measurement was taken.

10 I'm sorry.

11 THE WITNESS: This is the emissivity thermometer,

12 which can measure temperature surfaces. It was used to

13 compare the surface temperatures within the, with the grassy

14 areas to the asphalt surfaces and how the temperatures

15 varied. The second study also collected data more

16 extensively along Mount McComas and in the base, which is

17 the southern portion of Figure 7.

18 BY MS. ROSENFELD:

19 Q And where was the vertical wind profile?

20 A We didn't have a vertical wind profile. We had a

21 sonic -- we had this, what I dropped. We had a

22 two-dimensional sonic anemometer. It looked like this. We

23 had two of them. It's correct in our profile. We had two

24 of them at different levels for redundancy purposes, in case

25 one of them were to malfunction. Those, in this -- this

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1 first night it was positioned along this area in here. I

2 forgot which one of these it was. It was on the asphalt

3 surface. On the second study, April 26th, initially I set

4 it up in the grassy area because, you know, during the mall

5 hours, there's lot of vehicles in here, and then after it

6 cleared out, I could move it onto the asphalt surface and

7 collect data at that location. I mean, I show it in the

8 report the next time.

9 So two types of measurements -- the sonic

10 anemometer measurements, which are, they're done at very low

11 wind speed, and then emissivity surface temperature readings

12 at various places around the area.

13 Q And do you have a vertical temperature profile?

14 A We, we do.

15 Q And where would I find that?

16 A This is the profile for the first evening. Let

17 see if I can make this bigger.

18 Q Figure 3.

19 A This is showing the temperature at the upper level

20 and the temperature at the lower level on the first evening.

21 MR. GROSSMAN: The red being the upper and the --

22 THE WITNESS: Moving the lower. And this was

23 right next to the grassy area, and if you look at the

24 second, the second set of readings, which were, we moved, we

25 moved it from the grassy area to the asphalt surface, you

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1 can see the transition point. This is for April 26 to 27.

2 BY MS. ROSENFELD:

3 Q Slow down. Slow down. This is new to me. I'm

4 not as familiar with this document as you are. If you would

5 go back to Figure 3.

6 A Okay.

7 Q And Figure 3 was taken the first evening next to

8 the asphalt or was it on the asphalt?

9 A Well, I'd have to look -- that point I'll have to

10 discuss with the person who was there. It was right next,

11 at the interface between the asphalt and the grassy surface.

12 So on this particular example here, you will see it is

13 colder at the lower level than it is at the top where the

14 second, the second study, we had to initially set it up -- I

15 set it up right in the middle of the grassy area, but then

16 when the cars left, I was able to move the profile onto the,

17 well into the pavement so I get better indication of the

18 flow and the conditions and temperatures on the actual

19 asphalt itself, away from the grassy area that's off to the

20 west.

21 Q Which does this graph reflect?

22 A This is reflecting a monitor right next, at the

23 interface between the grassy surface area and also the

24 pavement area. It's not truly on the asphalt.

25 Q So it was in the grass for part of the monitoring

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1 and on the asphalt for part of the monitoring?
2 A No. This, this was not -- this is the first
3 evening. This was not moved. It was right near the
4 interface --
5 Q Okay. So it was only, it was right -- it was in
6 the grass, next to the asphalt?
7 A It was, I'll confirm that, but it was right at
8 the, right at the base of the boundary where the asphalt
9 ends and where the grassy surface begins.
10 Q And does that show evidence of a temperature
11 inversion?
12 A That does, yes.
13 Q Okay. And the second evening?
14 A Now this first, this first evening actually had
15 higher, higher wind speeds, less conducive, actually, to
16 inversion, but it was -- if it were in the grassy surface
17 area and adjacent to the asphalt, there would have been
18 evidence that it was colder at the surface. If you go to
19 the second evening, which had very low wind speeds, clear
20 skies, a classic condition where you have inversion if it
21 was going to occur, in that example this is the plot. Now,
22 the sensors are a little bit closer together. In this case
23 it's at 23 inches versus 60 inches at approximately -- if
24 you see early on within the grass, you see a small
25 inversion. It's colder in the bottom than it is in the top.

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1 At 10:30 approximately we moved the, moved it onto the, onto
2 the pavement surface. At that point -- you can see, well,
3 you see it's isothermal -- there's really no difference
4 between the levels. There's no inversion at all occurring
5 on the pavement during a condition where the winds -- at
6 this, at this point, I'm referring to approximately after
7 midnight, around 12:45 a.m. The winds dropped down to very
8 low levels, a few tenths of a meter per second, less than a
9 half mile an hour, and there was no evidence of any
10 inversion of any kind.
11 Q And what time did you stop monitoring?
12 A My recollection, on the April 27th it was 12:45
13 a.m.
14 MS. CORDRY: Is that showing that when you moved
15 it onto the paved surface, the temperature dropped markedly?
16 THE WITNESS: It's showing -- well, let's see,
17 when I moved it here --
18 MS. CORDRY: I mean, the two of them together, but
19 I mean the whole conglomerated piece looks like --
20 THE WITNESS: Yeah, I don't recall this situation,
21 what this is about. Honestly, I don't remember what
22 happened with this. The point is that -- of course, the
23 temperatures are dropping from what they were earlier on as
24 you go through the evening, and this may be around the time
25 we're moving. I don't remember the exact circumstance, but

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1 once it was moved and left in place for approximately two
2 hours and 15 minutes, you get a pretty clear indication that
3 there's a very -- there's no inversion occurring.
4 BY MS. ROSENFELD:
5 Q And could we, likewise, have -- I might have asked
6 this already -- the monitoring data for this report, the
7 Assessment of Terrain Flow, Exhibit 125(a)?
8 A Well, I believe you have that. That was the
9 -- it was made available, I believe, a few days ago. That
10 was the appendix.
11 Q Oh, I apologize --
12 A Yeah.
13 Q -- you did say that. You did say that. Okay. As
14 a layperson, my assumption would be that the pavement would
15 be warmer than the grass. Why would the temperature drop
16 when you moved it to the pavement?
17 A Well, the temperature, the temperatures, of
18 course, are dropping during the evening. We got there at
19 7:00 p.m., and this is in the grass and the temperatures are
20 dropping. You can get the best, the best sense of the
21 surface temperatures by looking at the emissivity
22 temperature readings that we show in the report, and you can
23 see that typically the, the concentrations on the asphalt
24 surface are 15 or more degrees warmer than in the grassy
25 areas at the base and in Kensington Heights.

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1 Q But that shows much lower, or am I misreading your
2 graph?
3 A We're not, we're not, we're not comparing -- if
4 you compare concurrent in time the temperatures, surface
5 temperatures -- I'm referring to what is the temperature of
6 that surface, not the temperature of the air above it, the
7 temperature of the surface -- the temperature of the surface
8 in the neighborhood that goes straight south into the
9 neighborhood, which is a little bit west of Mount McComas,
10 the temperature at those locations could be 15, 18 degrees
11 colder at concurrent times than temperatures were in the
12 asphalt area and perhaps seven or eight degrees colder than
13 the wooded area that's north of that location.
14 Q Does that graph show temperatures in the Mount
15 McComas neighborhood, in the Kensington Heights
16 neighborhood?
17 A This graph is strictly on the pavement. We're
18 talking about the pavement of the, of the mall.
19 Q And do you have any graphs that show temperatures
20 in the, in the neighborhood?
21 A We do.
22 Q And can you just quickly point me to those?
23 A This is an example of the relative temperature
24 differences. This is at approximately 9:00 p.m., April
25 26th, and you know, these are all relative temperatures.

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1 They're based upon the emissivity meter. They're calibrated
2 to be accurate to within about one to two degrees
3 Fahrenheit. And as you can see, the pavement at 9:00 p.m.
4 was showing on the order of 68 degrees. The wooded area --
5 went about 10, 12 feet into the wooded zone in here -- the
6 temperature is 54 degrees, but if I go down to -- what's the
7 street again? I'm sorry.
8 MS. SHEVEIKO: Melvin Grove Court.
9 THE WITNESS: Melvin Grove Court. We had a
10 reading at 39 at that point in the grass, we had a reading
11 over the base of Mount McComas of 46, and the top of that
12 area, about 48.
13 So what we're finding is in the open area of Mount
14 McComas we're getting the radiation of cooling that would be
15 consistent with inversion-type expectations. We're not
16 getting that in the wooded area or wooded buffer because
17 it's wooded, it's vegetated, and under a vegetated canopy,
18 especially, you do not tend to get the cooling effects that
19 you'd get in an open area or open grass and that's what this
20 is showing.
21 BY MS. ROSENFELD:
22 Q And do you have the weather maps for these two
23 dates?
24 A We have, not the weather maps, we have the
25 meteorological conditions at National Airport. That's

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1 contained in the data set.
2 Q And did you look at the weather maps?
3 A Did we look at weather maps? We looked at, we
4 looked at weather graphs in determining when we wanted to
5 conduct a sampling, when we had conditions that were
6 conducive to inversion conditions as part of the forecast
7 that was done, but we did not -- I did not look at weather
8 maps. I looked at surface observations from the DCA
9 National Airport.
10 MS. ROSENFELD: Mr. Grossman, I've got a couple of
11 questions from the audience. May I just --
12 MR. GROSSMAN: Certainly. Yes, the nice lady
13 who's been filming us --
14 MS. ROSENFELD: I've been tapped on the --
15 MR. GROSSMAN: -- indicated to me that she wanted
16 to ask a question or two.
17 MS. SHEVEIKO: Thank you, Mr. Grossman.
18 MR. GROSSMAN: Certainly. Before you ask your
19 question, would you identify yourself for the record,
20 please?
21 MS. SHEVEIKO: My name is Elena Sheveiko, and --
22 MR. GROSSMAN: And what's your, what's your --
23 MS. SHEVEIKO: -- I --
24 MR. GROSSMAN: -- what's your address?
25 MS. SHEVEIKO: -- I --

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1 MR. GROSSMAN: Ma'am --
2 MS. SHEVEIKO: -- like, first, I have --
3 MR. GROSSMAN: Hold on a second.
4 MS. SHEVEIKO: Oh, excuse me?
5 MR. GROSSMAN: Have a seat, and you've identified
6 your name. What's your address, please?
7 MS. SHEVEIKO: 10812 Melvin Grove Court.
8 MR. GROSSMAN: Okay.
9 MS. SHEVEIKO: And it's exactly where my house
10 supposed to be, but neither mine or my neighbor's house
11 shown on this map. It's covered with green which doesn't
12 exist in reality.
13 MR. GROSSMAN: Okay, but you can't testify now.
14 You can only ask a question. If you want to testify, I'm
15 going to let you --
16 MS. SHEVEIKO: My question is, where is my home,
17 sir, on this map?
18 THE WITNESS: I don't know.
19 MS. SHEVEIKO: It's supposed to be next to this
20 white house.
21 THE WITNESS: I don't know how to answer that.
22 MS. SHEVEIKO: I'm telling you that this map been
23 photoshopped and it does not reflect reality?
24 THE WITNESS: Ma'am, I don't know how to photoshop
25 out houses, and I can assure you --

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1 MS. SHEVEIKO: Sir --
2 THE WITNESS: -- it was not photoshopped.
3 MS. SHEVEIKO: -- there are two missing houses
4 because where our distance --
5 MR. GROSSMAN: Well, ma'am, ma'am --
6 MS. SHEVEIKO: -- to this proposed gas station
7 which --
8 MR. GROSSMAN: Ma'am, stop for a second. You
9 can't testify now. It's not permitted that you testify now,
10 but you can --
11 MS. SHEVEIKO: Okay. I can ask a question.
12 MR. GROSSMAN: Hold on. You can ask questions,
13 and I will -- you can testify. When it comes time for
14 citizens to testify, I will allow you to testify. You have
15 to be sworn in and subject to cross-examination --
16 MS. SHEVEIKO: Okay. I will ask a question.
17 MR. GROSSMAN: -- if you want to bring a copy of a
18 map showing your house or anything like that, you can do
19 that and introduce it --
20 MS. SHEVEIKO: Uh-huh, okay.
21 MR. GROSSMAN: -- but right now it's just to ask
22 questions.
23 MS. SHEVEIKO: Okay. My question is, as I
24 understand, like where we're very happy for our pool members
25 and school that there's a put limit, like 1,000 feet, but my

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1 question is, if our home's only 120 feet away from this
2 proposed gas station, would you consider our children be
3 safe? We have five young children --
4 MR. GROSSMAN: Well, you asked a question. Let,
5 let -- hold it. Hold it.
6 MS. SHEVEIKO: Yeah, playing --
7 MR. GROSSMAN: Hold it.
8 MS. SHEVEIKO: -- all the time outside.
9 MR. GROSSMAN: Ma'am --
10 MS. SHEVEIKO: Would you consider them safe?
11 MR. GROSSMAN: Ma'am, stop. You've asked your
12 question. Let him -- one question at a time.
13 MS. SHEVEIKO: It's only one question.
14 THE WITNESS: The answer is would I, do I consider
15 the air pollution at your home -- we modeled your home.
16 Frankly, it's the closest home, as you know. So when we
17 show the home, that's your home, and would I consider it's a
18 safe place to live for my children? Yes, I would. It's
19 meeting the National Ambient Air Quality Standards. The
20 risks are not high in terms of cancer risk assessment. I
21 mean, that's, that's my honest answer.
22 MS. SHEVEIKO: Yes. My question, do you answer,
23 so why the limit for school is 1,000 feet and for my
24 children 120 is enough?
25 THE WITNESS: There's no limit of 1,000 --

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1 MR. GOECKE: Mr. Grossman, I'd like to object.
2 There's no 1,000-foot limit in the record.
3 MR. GROSSMAN: No. I think -- well, she's
4 referring to, there was -- what was the --
5 THE WITNESS: The EPA school guidance screening
6 methodology --
7 MR. SILVERMAN: School-siting guidelines.
8 MS. SHEVEIKO: Yeah.
9 THE WITNESS: -- was 1,000 feet.
10 MR. GROSSMAN: Right. And so that's what she's
11 referring to. So I think that's a --
12 MR. GOECKE: Okay.
13 MR. GROSSMAN: -- that's a reference that's been
14 in the made record. He can answer that question.
15 MR. GOECKE: Okay.
16 THE WITNESS: The EPA 1,000 feet is called a
17 screening level, that if you're beyond 1,000 feet, you don't
18 have to worry about it, you don't have to do any analysis,
19 but what EPA said if you're within 1,000 feet -- they're not
20 saying it's not safe -- they said, they suggested doing a
21 site-specific analysis, to put in the conditions of the gas
22 station -- where it's located, what the controls are, how
23 many, how much gallons is it going to sell, how many cars in
24 a queue and how are they controlled -- and to model it and
25 to see if it is acceptable, and we've been spending three

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1 years doing that. So the answer is we have done a refined
2 analysis, and it shows the air quality at your home is safe.
3 That's what it shows.
4 MR. GROSSMAN: Okay.
5 MS. SHEVEIKO: But in this case, why my house
6 disappeared from the map?
7 THE WITNESS: You know, this is Google Earth.
8 That's -- I can assure you on the record under oath that we
9 didn't modify the map to take any homes out. We have no
10 reason to do that. I don't know how to do that, and we
11 clearly didn't.
12 MR. GROSSMAN: Okay. Where is Ms. Rosenfeld?
13 MS. ROSENFELD: I'm right here.
14 MR. GROSSMAN: Did you have additional questions
15 of this witness?
16 MS. ROSENFELD: Actually, I think this is a good
17 stopping point if that's all right with you.
18 MR. GROSSMAN: That's fine. I just wanted to know
19 if you have additional questions.
20 MS. ROSENFELD: I will have additional questions,
21 yes --
22 MR. GROSSMAN: Okay.
23 MS. ROSENFELD: -- but if I get started, I've got
24 big chunks of questions; so we'll pick up.
25 MR. GROSSMAN: Okay. Well, we're not going to go

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1 to 8 o'clock tonight because --
2 MS. ROSENFELD: No. So we --
3 MR. GROSSMAN: Quality of mercy.
4 MS. ROSENFELD: -- but I would expect, I would
5 expect to pick up by the next hearing date.
6 MR. GROSSMAN: Okay. That's fine. So the next
7 hearing is on July 8. We'll be downstairs at the -- that's
8 a Monday, second floor OZAH hearing room in this building.
9 MR. GOECKE: Just one question. Could we get a
10 sense of how long they expect to take on cross-examination
11 so we can plan for our witnesses, just so we can have folks
12 here?
13 MR. GROSSMAN: Fair enough.
14 MS. ROSENFELD: Easily a whole morning.
15 MR. GROSSMAN: A morning, okay. So we'll consider
16 that approximately three hours. Is that a fair guess?
17 MS. ROSENFELD: At the moment, I think that's a
18 good estimate.
19 MR. GROSSMAN: Okay. All right.
20 MS. CORDRY: We'll work on refining our questions
21 and that maybe will give us a better idea.
22 MR. GROSSMAN: Whatever is necessary.
23 MS. ROSENFELD: And I think Mr. Silverman covered
24 at least some of what I had anticipated covering.
25 MR. GROSSMAN: Okay, good. Ms. Sheard, I see

1 room we'll be in on July the 8th?

2 MR. GROSSMAN: Yes. We'll be in the second floor
3 hearing room downstairs, right opposite my offices.

4 MR. SILVERMAN: So the one we were at on Monday?

5 MR. GROSSMAN: Yes, that's correct.
6 (Whereupon, at 5:13 p.m., the hearing was
7 adjourned.)

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C E R T I F I C A T E

DEPOSITION SERVICES, INC., hereby certifies that
the attached pages represent an accurate transcript of the
electronic sound recording of the proceedings before the
Office of Zoning and Administrative Hearings for Montgomery
County in the matter of:

Petition of Costco Wholesale Corporation
Special Exception No. S-2863
OZAH No. 13-12

By:

Wendy Campos, Transcriber

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