

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
)
(Adjusted standard)) No. AS 19-002
Petition of Emerald Polymer)
Additives, LLC, for an)
Adjusted Standard from 35)
Ill. Adm. Code 304.122(b))

REPORT OF THE PROCEEDINGS held
via videoconference in the above entitled
cause before Hearing Officer Carol Webb,
called by the Illinois Pollution Control
Board, taken by LORI ANN ASAUSKAS, CSR, RPR,
for the State of Illinois, a notary public
within and for the County of Cook and State
of Illinois, at the Illinois Pollution
Control Board, 1021 North Grand Avenue East
(North Entrance), Springfield, Illinois, on
February 3, 2020, at 10:40 a.m.

1 A P P E A R A N C E S (In Springfield)

2 MS. CAROL WEBB, Hearing Officer
3 MR. ANAND RAO, Technical Unit

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10 BY: MR. REX L. GRADELESS,

11 Appeared on behalf of the Illinois
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20 BY: MR. THOMAS W. DIMOND
21 MS. KELSEY WEYHING,

22 Appeared on behalf of Emerald Polymer
23 Additives.

24 ALSO PRESENT:

 Mr. Houston Flippin
 Mr. Galen Hathcock
 Mr. Chris Wroble
 Mr. John McKinney
 Mr. Darin LeCrone
 Mr. Scott Twait
 Mr. Rick Pinneo

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A P P E A R A N C E S (In Chicago)

Chairman Barbara Flynn Currie
Board Member Cynthia Santos
Mark Kaminski, Counsel
Essence Brown, Technical Unit

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I N D E X

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1 HEARING OFFICER WEBB: Okay. We'll
2 go on the record.

3 Good morning. My name is
4 Carol Webb and this is the continuation of the
5 hearing for AS 19-002, Petition of Emerald
6 Polymer Additives for an Adjusted Standard from
7 the Total Ammonia-Nitrogen Effluent Standard in
8 35 Illinois Administrative Code 304.122(b).

9 The first two days of this
10 hearing were held in Lacon, Illinois. Due
11 to a lack of significant public interest,
12 it was decided that the hearing would
13 continue in Springfield with an opportunity
14 for observation and comment from Chicago.

15 Joining me today is the
16 Board's chief scientist, Anand Rao. We also
17 have other Board members and staff with us
18 in Chicago, Chairman Barbara Flynn Currie,
19 attorney advisor Mark Kaminski and environmental
20 scientist Essence Brown. And I understand
21 that Board member Cynthia Santos will be
22 joining us soon.

23 It is February 3, 2020, and
24 we are beginning at 10:40 a.m. I had previously

1 announced that the written public comment
2 deadline would be February 14th, but that
3 deadline is now extended to February 21st.

4 Day two of our hearing
5 concluded with the direct testimony of
6 Mr. Mark Liska. Today, we will begin with
7 the petitioner's cross-examination of this
8 witness.

9 Mr. Liska, would you please
10 have a seat up here and I will remind you that
11 you are still under oath.

12 THE WITNESS: Uh-huh.

13 MR. RAO: Tom has a question.

14 HEARING OFFICER WEBB: Do you have
15 a question? Oh, I'm sorry.

16 MR. DIMOND: Can we shut the door?

17 HEARING OFFICER WEBB: If you want.
18 It's -- is it noisy or is it hot?

19 MR. DIMOND: Well, I'm just concerned
20 it would be --

21 THE COURT REPORTER: You name, sir?

22 HEARING OFFICER WEBB: Oh, people
23 are going to hear. Yes, we can -- for -- for
24 confidentiality purposes, we can close it.

1 MR. DIMOND: I'm more concerned just
2 about noise.

3 HEARING OFFICER WEBB: Whatever
4 you want. It's a little warm in here, but
5 if you want it closed -- I mean, if you want
6 it closed --

7 MR. DIMOND: That's fine.

8 HEARING OFFICER WEBB: -- we'll
9 see how noisy it gets.

10 Okay. Mr. Dimond, you may
11 cross-examine the witness.

12 (Witness previously sworn.)

13 WHEREUPON:

14 M A R K E. L I S K A
15 called as a witness herein, having been
16 previously duly sworn, deposeth and saith
17 as follows:

18 C R O S S - E X A M I N A T I O N

19 by Mr. Dimond

20 Q. Good morning, Mr. Liska. How are you
21 this morning?

22 A. I'm good. How are you?

23 Q. I'm good.

24 First off --

1 MR. KAMINSKI: I'm sorry. I don't
2 mean to interrupt, but we're just going to mute
3 this unless we have something to say.

4 HEARING OFFICER WEBB: Oh, thank
5 you. Thank you.

6 HEARING OFFICER WEBB: Go ahead.

7 BY MR. DIMOND:

8 Q. Your first job with the agency was
9 as a permanent writer in the industrial
10 permit unit of the Bureau of Water, right?

11 A. Yes.

12 Q. And 14 to 15 years later, that's
13 still your job today?

14 A. Yes.

15 Q. In Lacon, you told us that you
16 had worked on two or three adjusted standards.

17 Is this the first adjusted
18 standard matter in which you testified before
19 the Board?

20 A. Personally testified, yes.

21 Q. And have you testified in any other
22 matters before the Board?

23 A. No.

24 Q. What year did you get your Bachelor

1 of Science degree?

2 A. 2001.

3 Q. Okay. And what year did you get your
4 Master's of Science degree?

5 A. 2003.

6 Q. In Lacon, you told us that prior
7 to the agency, you worked at a couple of
8 chemical plants.

9 What was the first plant that
10 you worked at?

11 A. Let's see. I worked -- I interned
12 at UOP in McCook, Illinois.

13 Q. I'm -- I'm sorry. In -- where in
14 Illinois?

15 A. McCook.

16 Q. Okay. What year was that?

17 A. 1999.

18 Q. And what does -- what does UOP
19 manufacture?

20 A. They manufacture a lot of specialty
21 chemicals.

22 Q. Can you name me one?

23 A. There were chemicals involved with
24 additives for aircraft fuel, food additives,

1 and other -- other additives and stuff for
2 petrochemicals.

3 Q. And what were your -- what were
4 your job duties as an intern?

5 A. I ran one of their plants.

6 Q. By yourself?

7 A. Yes.

8 Q. Which plant did you run?

9 A. In particular, this made an additive.
10 I believe it was for Pepsi. What -- what we
11 were making was a closely guarded secret. So
12 I wasn't given a lot of information on what
13 the additive was for.

14 Q. What was the second -- you said
15 you worked at a second one.

16 What was the second chemical
17 plant that you worked at?

18 A. I also worked at Nalco.

19 Q. Okay. When did you work for Nalco?

20 A. That was 2002. That -- that was
21 also an internship through the Illinois EPA.

22 Q. And had you accepted a position
23 at Illinois EPA prior to this internship?

24 A. I had not.

1 **Q. Then how exactly was the internship**
2 **through Illinois EPA?**

3 A. They -- under that program, which
4 no longer exists, they took in interns and
5 they would dove them out to companies that
6 wanted an intern for a par- -- set amount of
7 time to work on environmental projects.

8 **Q. Okay. So in this internship program,**
9 **you were paid by Illinois EPA, but you worked**
10 **at Nalco?**

11 A. Yes.

12 **Q. So what did you do at Nalco?**

13 A. I worked with -- they made more
14 specialty chemicals for mostly paper products
15 and I worked in minimizing waste doing some
16 optimization of their systems and optimization
17 of their cooling towers, optimization of how
18 they ran their operations.

19 **Q. And so you were saying optimization?**

20 A. Optimization, yes.

21 **Q. And how long did that job last?**

22 A. That was another -- it was about a
23 four-month summer internship.

24 **Q. And your internship at UOP in McCook**

1 was also just for a summer?

2 A. Yes.

3 Q. So sum total, you've got seven to
4 eight months of experience working --

5 A. I --

6 Q. -- at chemical plants?

7 A. I -- I had more experience as well.

8 Q. At chemical plants?

9 A. Yes.

10 Q. Okay. You've said you worked at
11 two. You've told about two. What --

12 A. Well, it would've been --

13 THE COURT REPORTER: Let him finish
14 his question, sir.

15 THE WITNESS: All right.

16 BY MR. DIMOND:

17 Q. So what's the third?

18 A. I worked from 2003 until 2005 at
19 Thomas Engineering.

20 Q. Okay. Is Thomas -- I thought
21 Thomas Engineering manufactured industrial
22 tumblers?

23 A. Yes, they do. But in this case,
24 they were -- they needed particular help

1 with chemical engineers because they were
2 on-site doing a lot of -- they -- they had
3 to work with chemicals.

4 What they did in this
5 particular project, they were -- they made
6 little tablets and they had to coat the
7 tablets with certain pharmaceuticals and
8 they needed chemical engineers to set up
9 and run all of the -- the tanks that mixed
10 and made all the chemicals so that they
11 could then pump it into the tumblers to
12 coat them.

13 So they needed people with
14 chemical experience -- chemical engineering
15 experience to set up, run, test, do everything
16 with that.

17 **Q. And how many years did you do that**
18 **for Thomas Engineering?**

19 A. Two years, from 2003 to 2005.

20 **Q. And the work that you did for**
21 **Thomas, were you at the location of their**
22 **customers?**

23 A. No. I was at their location.

24 **Q. Okay. Well, were you working the**

1 **nightshift there?**

2 A. Yes.

3 **Q. Are you licensed by the Illinois**
4 **Department of Financial and Professional**
5 **Regulation as a professional engineer?**

6 A. I am not.

7 **Q. Are you licensed by the Illinois**
8 **Department of Financial and Professional**
9 **Regulation as a structural engineer?**

10 A. I am not.

11 **Q. Have you ever designed a wastewater**
12 **treatment system?**

13 A. No.

14 **Q. Okay. Have you ever overseen the**
15 **construction of a wastewater treatment system?**

16 A. No.

17 **Q. Have you ever operated a wastewater**
18 **treatment system?**

19 A. Yes.

20 **Q. Where did you operate one?**

21 A. At Thomas Engineering.

22 **Q. What was involved in that wastewater**
23 **treatment system?**

24 A. Let's see. Filtration, pH

1 neutralization, clarification. Yeah, that's
2 about it.

3 Q. There was no biological treatment
4 there?

5 A. No.

6 Q. Through the work group that we've
7 heard about in this hearing, the Agency has
8 invested a lot of time and effort on this
9 adjusted standard requested by Emerald,
10 right?

11 A. Yes.

12 Q. So I -- I take it that getting
13 this adjusted standard denied is a pretty
14 important objective for the Bureau of
15 Water?

16 MR. GRADELESS: Objection.

17 THE COURT REPORTER: Your name,
18 sir?

19 MR. GRADELESS: Rex Gradeless,
20 Illinois EPA. I can get you a card.

21 HEARING OFFICER WEBB: Could you
22 clarify the question?

23 BY MR. DIMOND:

24 Q. I -- I take it that getting this --

1 you put a lot of time into this. I take it
2 that getting the adjusted standard denied
3 is a -- is a pretty important objective for
4 the Bureau of Water, right?

5 MR. GRADELESS: I would object.

6 HEARING OFFICER WEBB: Overruled.

7 You can answer.

8 BY THE WITNESS:

9 A. Okay. It's just part of our job.

10 BY MR. DIMOND:

11 Q. But the Agency wants it denied,
12 right, and you put a lot of effort into it?

13 A. It is --

14 MR. GRADELESS: Compound question.

15 HEARING OFFICER WEBB: Overruled.

16 You can answer.

17 BY THE WITNESS:

18 A. That's what's in the petition.

19 That's what we've -- that's what we're doing.

20 BY MR. DIMOND:

21 Q. Is it one of the top priorities
22 for the Bureau of Water to get this adjusted
23 standard denied?

24 A. I have lots of priorities. I

1 have eight other majors on my desk right
2 now. So I've -- not including this one,
3 I have lots of priorities.

4 Q. Well, but you're here today
5 testifying.

6 Are you testifying with
7 regard to any of those other matters?

8 A. No.

9 Q. In April of 2018, Emerald submitted
10 an update report to the Agency under adjusted
11 standard 13-2 that included a report by
12 Mr. Houston Flippin on the use of granular
13 activated carbon and river water dilution
14 alternatives. You reviewed those documents
15 shortly after they were submitted, right?

16 A. Yes.

17 Q. But you didn't prepare any analysis
18 of it or discuss it with anyone until at least
19 a year later when the Agency began preparing
20 its recommendation in this proceeding, right?

21 A. Yes.

22 Q. And even though you had some
23 concerns about Mr. Flippin's analysis, you
24 did not communicate any of those concerns

1 to Emerald right after your review, correct?

2 A. No, I did not.

3 Q. Your deposition in this matter
4 was on December 16th, which was a couple
5 of months after the Agency received
6 Mr. Flippin's October 11, 2019, report.

7 But at the time of your
8 deposition, you had only looked through
9 it, but you had not studied it very much,
10 correct?

11 A. Correct.

12 Q. In fact, you had not looked at it,
13 that is, Mr. Flippin's report closely enough
14 to offer any testimony on it, right?

15 A. At that time, yes, correct.

16 Q. Well, given the importance of this
17 issue to the Bureau of Water, why did it
18 take you over a year after his 2018 report
19 to discuss it with anybody else in the
20 Agency?

21 A. We're basically over- -- overbooked
22 and have a lot of other permits to work on.
23 Taking time to work on a permit that isn't
24 currently open, at least as far as the NPDES

1 permit is concerned, they were -- their NPDES
2 permit doesn't expire until 2021.

3 So taking time out to do
4 something that's not currently open can
5 sometimes be a challenge.

6 Q. Now, in Lacon, you told us in the
7 two or three adjusted standard cases that
8 you had worked on previously, none of those
9 involved waste streams of two companies
10 going into the same wastewater treatment
11 plant, right?

12 A. Correct.

13 Q. Now, that's -- that's only two or
14 three cases.

15 Did any of those cases
16 relate to a plant that was initially
17 constructed by a single company and then
18 divided?

19 A. Done by a single company and
20 then divided out? No, I don't think of
21 that, no.

22 Q. Other than the Emerald permit,
23 have you issued a permit -- any other
24 permits where there is one permit covering

1 **discharges of two separate companies?**

2 A. Yes.

3 **Q. Okay. How many?**

4 A. If -- it's something that's very
5 rare. So only a handful.

6 **Q. More than five?**

7 A. Less than five.

8 **Q. What are -- can you name any of**
9 **them?**

10 A. Let's see. There was a -- one
11 with -- let's see. I think ExxonMobil had
12 a -- a station -- a -- not -- not their
13 refinery, but a -- a tank farm that had
14 more than one owner. Citgo as well.

15 Another company, Rohm and
16 Haas, would split off, had someone else's
17 discharge for a while before they split
18 into two separate permits.

19 **Q. Okay. So that -- so it's not**
20 **unheard --**

21 A. It's not unheard of.

22 **Q. It's not unheard of that --**

23 MR. GRADELESS: I'm sorry. Were
24 you -- do we want him to keep answering? I

1 believe he asked him --

2 MR. DIMOND: I'm satisfied with
3 the answer.

4 HEARING OFFICER WEBB: Okay.

5 MR. GRADELESS: Okay. I'm just --

6 BY MR. DIMOND:

7 Q. So it's not unheard of at the Bureau
8 of Water that there's one permit that covers
9 discharges of more than one corporate entity?

10 A. Right.

11 Q. So in Lacon, Mr. Gradeless asked you
12 if you were familiar with the design standards
13 at 35 Illinois Administrative Code Part 370 and
14 you said you were.

15 Do you remember that?

16 A. Yes.

17 Q. Now, I thought you were not -- in your
18 deposition, you told Ms. Weyhing that you
19 were not familiar with the regulations at
20 35 Illinois Administrative Code 370.920
21 and 370.1210 and the ten state standards
22 for growing, nitrifying or ammonia degrading
23 bacteria, right?

24 MR. GRADELESS: What line are you

1 on?

2 MR. DIMOND: No, I don't have to
3 answer your question. I want his answer.

4 BY MR. DIMOND:

5 Q. Is that what you -- is that what
6 you told us?

7 MR. GRADELESS: If we're going
8 to try to impeach a witness, I have a right
9 to know where we're looking at.

10 MR. DIMOND: Well, let's see
11 what he -- let's see what the witness says?

12 HEARING OFFICER WEBB: Overruled.
13 Go ahead.

14 BY MR. DIMOND:

15 Q. Is that what you told us during the
16 deposition?

17 A. I -- I couldn't give -- if you just
18 rattled off a number, I couldn't give you
19 exactly what it was. I don't have --

20 Q. Okay.

21 A. -- all of those memorized.

22 Q. Mr. -- Mr. Liska, during your
23 deposition, did Ms. Weyhing ask you this
24 question and did you give her these answers:

1 "Question: Are you familiar
2 with the regulations at 35 Illinois
3 Administrative Code 370.920 and 370.1210
4 and the ten state standards for growing,
5 nitrifying or ammonia degrading bacteria?"

6 "Answer: No, I am not."

7 Is that the question you
8 were asked and the answer that you gave?

9 A. It must have been, yes.

10 Q. How -- in -- so that was on December
11 16th.

12 How did you become so familiar
13 with Part 370 in less than a month?

14 A. Could you give an example? Like --

15 Q. You told Mr. Gradeless that you
16 were familiar with the Part 370 standards,
17 but when you were asked in December, you
18 said you didn't know about these two sections
19 of the Part 370 standards.

20 MR. GRADELESS: I'm going to object
21 to misstating the witness's testimony at
22 Lacon and in his deposition.

23 Until I'm directed to where
24 we're talking about, this is improper.

1 HEARING OFFICER WEBB: Well, I --

2 MR. GRADELESS: I have a right
3 to redirect my witness and if he's reading
4 off --

5 HEARING OFFICER WEBB: Well, I --
6 if we're talking about mischaracterizing
7 testimony, give him the page number.

8 MR. GRADELESS: It's hearsay.

9 MR. DIMOND: It's deposition
10 Page No. 75, Lines 19 through 23.

11 MR. GRADELESS: Thank you.

12 In the hearing transcript?

13 MR. DIMOND: Page 214.

14 MR. GRADELESS: Hold on.

15 BY MR. DIMOND:

16 **Q. So how did you become so familiar**
17 **with Part 370 in a course of a month?**

18 A. OH, I'm sorry. I was waiting to
19 hear...

20 HEARING OFFICER WEBB: You can
21 go ahead and answer.

22 THE WITNESS: Okay.

23 BY THE WITNESS:

24 A. There's more to it than just that

1 part.

2 BY MR. DIMOND:

3 Q. But isn't 370.1210 the part that
4 relates to ammonia control?

5 A. I assume so, yes. I don't -- I
6 don't have it memorized.

7 (Document marked as Petitioner's
8 Hearing Exhibit No. 22 for
9 identification, 02/03/2020.)

10 BY MR. DIMOND:

11 Q. I'm going to hand you, Mr. Liska,
12 what I have marked as Petitioner's Hearing
13 Exhibit 22, which is a copy of the regulations
14 of Part 370, which I printed from the Pollution
15 Control Board's website.

16 And unfortunately, when the
17 Pollution Control Board puts these on their
18 website, they don't put page numbers on them.
19 So I can't direct you to a page number, but
20 I'd like you to look at Section 730.1210(a).

21 (Document tendered
22 to the witness.)

23 BY THE WITNESS:

24 A. Okay.

1 BY MR. DIMOND:

2 Q. Are you -- are you there?

3 A. I just found 370.1210 and you --
4 is it right after that, A, general?

5 Q. If you are 370.1210, that's --
6 that's good enough for now.

7 A. Okay.

8 Q. Now, in Lacon, on Page 214,
9 Mr. Gradeless asked you:

10 "Question: Are you familiar
11 with any design standards at 35 Illinois
12 Administrative Code 370?"

13 "Answer: I am familiar with
14 them, yes."

15 "Question: And what are
16 those?"

17 "Answer: Those are standards
18 for sewer work."

19 "Question: And they are
20 the same -- similar standards that have been
21 proposed as alternatives in this case; is
22 that right?"

23 "Answer: Yes."

24 Now, I'm reading from

1 370.1210(a), which says, "Ammonia control
2 can be accomplished by physical, chemical,
3 biological and ion-exchange techniques.
4 These criteria," meaning the Part 370
5 rules, "contain design standards for a
6 limited number of biological types and
7 configurations of ammonia control systems."

8 So the Part 370 rules
9 don't address ammonia control techniques
10 like breakpoint chlorination or ozonation
11 or ion exchange or alkaline stripping that
12 Mr. Flippin evaluated, right?

13 A. Well, it does say ion exchange
14 here.

15 Q. These -- the regulations said
16 "These criteria contain design standards
17 for a limited number of biological types
18 and configurations of ammonia control
19 systems."

20 It doesn't say that they
21 contain design standards for ion-exchange
22 systems, right?

23 A. Okay.

24 Q. So when -- so Part 370 doesn't

1 address the breakpoint chlorination that
2 Mr. Flippin evaluated, right?

3 A. Right.

4 Q. And it doesn't address ozonation
5 that Mr. Flippin evaluated, right?

6 A. Right.

7 Q. And it doesn't address ozonation
8 that Mr. Flippin evaluated, right?

9 A. That's what you just said, right.

10 Q. And it doesn't address design
11 standards for ion-exchange systems either,
12 does it?

13 A. Right.

14 Q. Now, if you look on down in (a)(1)(A)
15 under process selection, the rules continue
16 "Biological systems, normally used to accomplish
17 secondary levels of treatment, may be adapted
18 to function as nitrification systems. In
19 applications of the fixed growth processes
20 staged biological treatment is normally
21 provided. The single stage activated sludge
22 process has been found to be reliable for
23 nitrification and is more commonly used than
24 the two-stage activated sludge process."

1 So this, in fact, is
2 stating that single stage nitrification,
3 after a primary clarifier, is what is
4 common and what these design standards
5 address, right?

6 A. Yes. It say it's --

7 Q. This is --

8 A. -- more common.

9 Q. These design standards aren't
10 addressing tertiary nitrification proposals
11 like what Mr. Flippin evaluated, is it?

12 A. Right.

13 Q. So then -- then in Lacon, why did
14 you tell us that these standards are --
15 similar standards have been proposed as
16 alternatives in this case? The alternatives
17 in this case were all -- they weren't
18 single stage nitrification, were they?

19 A. No.

20 Q. No, they weren't.

21 So why did you tell us in
22 Lacon that they were?

23 MR. GRADELESS: Objection. That's
24 not accurate.

1 MR. DIMOND: I'm reading from
2 what he read -- what he told us in Lacon.

3 HEARING OFFICER WEBB: Overruled.

4 BY THE WITNESS:

5 A. This can be used as a basis of how
6 we evaluate everything --

7 BY MR. DIMOND:

8 Q. But that's not --

9 A. -- else

10 BY MR. DIMOND:

11 Q. -- what you testified to in Lacon.

12 A. I never said that every single
13 thing was tested exactly to the letter to
14 this. I said in -- one of -- I think in
15 both cases that this is for sewer works. We
16 use this -- we can use this as a basis for
17 industrial usage, but we would -- we would
18 never -- we would -- we would use it as a
19 basis, but we wouldn't use it strictly for
20 this, for industrial work.

21 Q. So the single stage nitrification
22 that's described in Part 370, that's different
23 from tertiary nitrification that Emerald would
24 have to do, which is solely addressed to

1 **reducing ammonia, right?**

2 A. Well, they're both -- they're similar
3 forms of nitrification.

4 Q. They're different, though, aren't
5 they, Mr. Liska?

6 Tertiary nitrification doesn't
7 address BOD control, does it?

8 A. No. That would have been --

9 Q. Because it already got out in the
10 secondary treatment step; right?

11 A. Right.

12 THE COURT REPORTER: Hearing
13 Officer, could we have everyone finish their
14 questions and answers and not interrupt for a
15 better record?

16 HEARING OFFICER WEBB: Yes.

17 MR. DIMOND: I'll -- I'll try.

18 BY MR. DIMOND:

19 Q. Now, in Lacon, you gave us a
20 pretty detailed description of the Emerald
21 Henry plant wastewater treatment system,
22 right?

23 A. Yes.

24 Q. Well, in your deposition in

1 December, you told Ms. Weyhing that you were
2 only very generally familiar with how the
3 Henry plant works, right?

4 A. Yes.

5 Q. Why the change in your testimony?

6 A. We -- I have -- hadn't really looked
7 at it since -- well, the last time the permit
8 was renewed. I've done a lot of permits since
9 then so I needed to refamiliarize myself with
10 it.

11 Q. So in Lacon, you also told us that
12 you did not think that concentration limits
13 would necessarily be related to the level of
14 production, right?

15 A. Right.

16 Q. So now I'm just curious as to what
17 your testimony is.

18 Is your conclusion related
19 to the concentrations of the ammonia and the
20 discharge?

21 A. I'm sorry. Can you go over that
22 again?

23 Q. Is -- is -- is your -- is your
24 testimony that it's the concentration limits

1 in the discharge that you don't think are
2 related to production?

3 A. Correct.

4 Q. Do you -- do you believe that the
5 load sort of expressed typically in pounds
6 per day could be positively related to
7 production?

8 A. Yes.

9 Q. Are the processes at the Henry
10 plant batch production processes or continuous
11 production processes?

12 A. I believe they are batch processes.

13 Q. Okay. At the -- when you were
14 testifying in Lacon, you sort of went back
15 and forth between batch and continuous. So
16 I wasn't sure what you thought.

17 A. I'm not sure that all of them are
18 batches.

19 Q. All right. So you -- you really
20 don't know one way or the other?

21 A. Not for sure, no.

22 Q. Now, in -- in reaching the conclusion
23 that concentration or that -- in reaching your
24 conclusion that the -- the ammonia at the

1 discharge point would not be related to the
2 level of production, aren't you assuming that
3 each batch is the same product?

4 A. We know from previous testimony that
5 they have ten -- roughly ten products.

6 Q. So what if -- what if the mix of
7 products changes?

8 Could that impact the
9 concentration in the wastewater system,
10 the concentration of ammonia and the
11 discharge?

12 A. We don't have the information of
13 which -- of what concentration is in each
14 batch.

15 Q. So if production is generally
16 higher, did you consider whether or not the
17 plant might have more changeovers and more
18 clean-outs?

19 A. Yes.

20 Q. How did you consider that?

21 A. Well, we didn't consider that
22 as -- consider it for what now in our --

23 Q. Well, you -- you expressed your
24 view --

1 A. Okay.

2 Q. -- that the concentration of
3 ammonia --

4 A. Okay.

5 Q. -- would not be related to levels of
6 production.

7 A. Right.

8 Q. I'm asking did you -- in reaching
9 that conclusion, did you consider whether or
10 not greater levels of production would --
11 would lead to greater numbers of changeovers
12 from producing one product to producing
13 another?

14 A. So that when there was more --

15 Q. I'm just asking if you -- if you
16 considered that.

17 A. For what, in our --

18 Q. Did you consider that in reaching
19 your conclusion that the level of production
20 would not have any affect on the concentration
21 of ammonia in the -- at the discharge?

22 A. The -- as far as load limits, we
23 used what they had -- we used the data from
24 the DMRs, which came at both times of high

1 and low production.

2 As we found out in the --
3 the Lacon testimony, there were -- from
4 2016 until now, there were highs and lows
5 in production. So that would have already
6 been baked into the load limits that we
7 received.

8 Q. Mr. Liska -- Mr. Liska, I don't
9 think you understood my question. So let
10 me try again. Let me -- let me try it this
11 way.

12 If production is generally
13 higher, could the plant have more changeovers
14 from one product to a different product?

15 A. Sure. It's possible.

16 Q. Okay. Did you consider that factor
17 in reaching your conclusion that production
18 had nothing to do with the concentration and
19 the discharge?

20 A. Again, that --

21 Q. Did you consider that factor in
22 reaching the conclusion?

23 A. It would've already been put in
24 through the -- we only considered what the

1 load limits -- I'm sorry -- the -- the load
2 numbers that we received as far as DMRs.

3 Q. You're done?

4 A. Yes.

5 Q. So what exactly did you consider
6 in -- in -- did you -- in reaching this
7 conclusion, was it just based on your review
8 of the DMR data?

9 A. Reaching which conclusion?

10 Q. Your conclusion that the concentration
11 of ammonia in the discharge from the Henry plant
12 would not have any relationship to production
13 levels.

14 A. Okay. Go over it one more time then.

15 Q. I understood you to say in Lacon
16 that you did not believe that the level of
17 production would have any impact on the
18 concentration of ammonia in the discharge
19 of the wastewater plant.

20 Did I understand your
21 testimony correctly?

22 A. Right.

23 Q. So what I'm asking is did you base
24 that conclusion solely based on your review

1 of the DMR data for the Emerald plant?

2 A. Yes.

3 Q. You -- you didn't consider anything
4 else?

5 A. Correct.

6 Q. Now, you also testified about
7 your understanding of Mark Winters' testimony
8 about using hydrogen peroxide to reduce MBT.

9 Do you remember that?

10 A. Yes.

11 Q. But you don't really know anything
12 about using hydrogen peroxide to reduce MBT
13 other than what you read in Mr. Winters'
14 deposition, right?

15 A. Since then, I found more information,
16 but at that time, no.

17 Q. Okay. Well, hit us with it.

18 What's the more information
19 that you think you found?

20 A. Well, I hadn't remembered it at
21 the time, but ExxonMobil also added hydrogen
22 peroxide as part of their treatment for --
23 in order to break down sulfides of which
24 MBT is -- does have that constituent in

1 it.

2 Q. How did you -- how did you come
3 into that information?

4 A. Well, doing some more research on
5 ExxonMobil and the R9728.

6 Q. So did you provide that -- so what --
7 what document did you find?

8 A. Reading through R9728 and then going
9 over a state operating permit of their -- of
10 ExxonMobil from 2007.

11 Q. Okay. Did you provide that to
12 Mr. Gradeless?

13 A. The -- which?

14 Q. The operating permit.

15 A. Yes, I have.

16 Q. Now, I'm not going to mark this
17 as an exhibit at this point, but is this
18 the document you provided to Mr. Gradeless?

19 (Document tendered
20 to the witness.)

21 BY THE WITNESS:

22 A. Let's see. Yes.

23 BY MR. DIMOND:

24 Q. Okay. For the record, the document

1 is identified as Permit No. 2007-E -- as in
2 Eggleston -- and N -- as in Nancy -3753, date
3 issued July 20, 2007. The subject is ExxonMobil
4 Oil Corporation, construction of hydrogen
5 peroxide injection system, et cetera, et cetera,
6 NPDES Permit No. IL0002861.

7 So this permit says that it's
8 for the construction of a hydrogen peroxide tank
9 and all the pumps, et cetera, et cetera, to
10 treat tank TK588?

11 (Document tendered
12 to the witness.)

13 BY THE WITNESS:

14 A. Uh-huh.

15 BY MR. DIMOND:

16 Q. And then it says, "To supplement
17 the benzene recovery unit before discharging
18 to the Joliet refinery wastewater WWTP,"
19 which stands for wastewater treatment plant,
20 right?

21 A. Yes.

22 Q. So this says that it's for -- to
23 supplement the benzene recovery unit.

24 What does it have to do

1 with sulfides? I thought I heard you say
2 you thought it had to do with sulfides.

3 A. Yes. There are sulfides in that --
4 in the area as well.

5 Q. Does this permit say -- I -- I
6 haven't read the whole thing. Does it say
7 anything about sulfides?

8 A. It does not in the permit.

9 Q. Okay. But so is this trying to recover
10 benzene?

11 A. No.

12 Q. What's it trying to recover?

13 A. It's trying to break down sulfides.

14 Q. What in this document leads you to
15 believe that?

16 A. It's in my notes for this. Just --
17 just the fact that it doesn't say what it's
18 doing -- the -- the only reason that it's in
19 the benzene recovery unit in this document
20 is because I had to pinpoint exactly where
21 this system is going in.

22 The fact that it's going --
23 was it before or after the benzene recovery
24 unit, it doesn't mean that it's particularly

1 going -- that it's particularly treating
2 benzene or something like that.

3 I just had to make a note
4 of exactly where it was, but if you would
5 read the notes and ExxonMobil's documentation
6 of their permit application, it's -- it goes
7 through everything of how it breaks down
8 sulfides.

9 Q. Okay. And did you -- did you
10 provide the application for this that
11 ExxonMobil submitted to Mr. Liska -- or
12 I'm sorry -- to Mr. Gradeless?

13 A. I did not. I -- I could.

14 Q. Okay. So Emerald's predecessor,
15 Noveon®, evaluated hydrogen peroxide treatment
16 prior to 2004, but that still showed slower
17 nitrification than would have been achieved
18 in an uninhibited system, right?

19 A. I assume, right.

20 Q. Well, you said you assume. Why did --
21 why -- why did you qualify your answer by saying
22 you assume?

23 A. It -- it's correct.

24 Q. Okay. How do you know it's correct?

1 A. How do I know --

2 Q. How do you know what I just asked you
3 was correct?

4 A. You said that they already --

5 Q. Well --

6 A. You said they already evaluated. I
7 said that's correct.

8 Q. Okay. So, Mr. Liska, if -- if all
9 you did was hear my now question, that's not
10 a basis for you to think it's correct. I want
11 to know why you thought it was correct.

12 A. I only said that -- you're -- you're
13 just repeating that in 2004, they evaluated
14 it and I said --

15 Q. Let -- let me ask the question
16 again?

17 A. Okay.

18 Q. The question I asked you --

19 A. Okay.

20 Q. -- is it correct that Emerald's
21 predecessor, Noveon®, evaluated hydrogen
22 peroxide treatment prior to 2004, but that
23 evaluation still showed slower nitrification
24 than would've been achieved in an uninhibited

1 **system?**

2 A. Correct.

3 **Q. Okay. So how -- where -- where**
4 **did you come into the knowledge that that**
5 **is correct, that this evaluation was done?**

6 A. Okay. I don't recall going over
7 that from a pre-2004 document. I don't
8 recall going over it.

9 **Q. Okay.**

10 A. I'm just assuming that what you're
11 telling me is the truth that they had evaluated
12 it prior to 2004. I -- I cannot remember every
13 evaluation they did going back 20 years.

14 **Q. Okay. So you're just assuming because**
15 **I asked the question it must be true, but**
16 **you don't have any independent recollection**
17 **one way or the other?**

18 A. I don't have any recollection of
19 them going -- of Noveon® going over hydrogen
20 peroxide prior to 2004. I -- I cannot recall
21 that.

22 **Q. And have you gone back and read**
23 **the -- any of the testimony of any of the**
24 **reports that were done for the 2004 adjusted**

1 **standard?**

2 A. I did at one time. I'm not going
3 to recall every single one of them.

4 **Q. When did you do that?**

5 A. In the last year while working on
6 this.

7 **Q. And what do you remember reading**
8 **through?**

9 A. The last two at least adjusted
10 standards.

11 **Q. You read every page?**

12 **Do you remember anything**
13 **specifically that you read?**

14 A. Yes.

15 **Q. What specifically did you read?**

16 A. I remember mostly of what all
17 the different things that they went through
18 over the last ten to 15 years, but I'm not
19 going to be able to recall every one.

20 **Q. So Mr. Flippin evaluated granular**
21 **activated carbon as an alternative in his**
22 **April 2018 report that was submitted to the**
23 **Agency, right?**

24 A. Right.

1 Q. And you reviewed that right after
2 it was submitted to the Agency, correct?

3 A. Right.

4 Q. And when you reviewed it at that
5 time, you were concerned that Mr. Flippin
6 might have overestimated the cost because
7 you thought that he based his granular
8 activated carbone cost estimates on total
9 flow under the highest conditions, right?

10 A. Correct.

11 Q. But, in fact, Mr. Flippin proposed
12 applying the granular activated carbon
13 treatment after the PC and C-18 tanks,
14 right?

15 A. Yes.

16 Q. He didn't apply it to total flow in
17 the wastewater treatment system, did he?

18 A. No.

19 Q. Now, in Lacon, you told us -- you
20 told us that you would like to see the granular
21 activated carbon alternative -- in Lacon,
22 you told us that you wanted the use of granular
23 activated carbon to be evaluated at different
24 points throughout the treatment plant via

1 the clarifier, the coagulation point and
2 then you said either clarifier, which -- by
3 which I assume you meant even the primary
4 clarifier or the secondary clarifier.

5 Is that what you told us in
6 Lacon?

7 A. Yes.

8 Q. Now, because our court reporter has
9 changed, I don't believe you have the Agency's
10 exhibits in front of you.

11 So I'm going to hand you a
12 copy of Agency Exhibit 4.

13 (Document tendered
14 to the witness.)

15 BY THE WITNESS:

16 A. Okay.

17 BY MR. DIMOND:

18 Q. This was previously designated.

19 A. All right.

20 Q. Now, on Agency Exhibit 4, the
21 flocculent addition is in -- is in the
22 column labeled primary treatment right
23 after the neutralization tank, correct?

24 A. Yes. I can see it here.

1 Q. And -- and did I find it correctly
2 on the diagram?

3 A. Yep, looks like it. Yes. It's in
4 the primary treatment section.

5 Q. And -- and by the time the wastewater
6 gets to the flocculent addition, the water
7 from the C-18 and PC tank has been combined
8 with the water from the PVC tank, right?

9 A. Correct.

10 Q. So total flow at the point of
11 flocculent addition would be higher than the
12 total flow of just the PC tank and the C-18
13 tank, right?

14 A. Correct.

15 Q. Okay. And that would also -- it
16 would also be true that -- it would also be
17 true that total flow at the primary clarifier
18 or the secondary clarifier would be higher
19 than just the flow of the C-18 and the PC
20 tank, right?

21 A. It would be a little. Some of
22 the wastewater would come out in the sludge,
23 but otherwise, it would -- it would be still
24 higher.

1 Q. So, you know, Mr. Liska, I'm
2 confused.

3 In your deposition, you
4 said that you were concerned that Mr. Flippin
5 might have overestimated the GAC costs by
6 applying it to total flows, but, you've now
7 admitted that, in fact, he didn't apply it
8 to total flow.

9 And then in Lacon, you
10 actually suggested that he should've evaluated
11 it at locations where you do have the flow
12 from all of the source tanks and you've just
13 admitted that the flow would be higher.

14 So I'm just -- you know, what
15 is your position?

16 Which is it?

17 A. The reason why I would test it at
18 those -- at those other spots would be because
19 a lot of the suspended solids and BOD would
20 be out of it. Those can -- to use -- those
21 can basically gum up the activated carbon
22 at times.

23 So even if there was some
24 more flow, you could get -- especially with

1 the MB- -- since we're trying to get MBT out,
2 you could get different or possibly better
3 usage out of it once some of the solids and
4 some of the sludge is out of the system.

5 **Q. Okay. You said possibly.**

6 **Have -- have you ever done**
7 **any tests on your theory that possibly you**
8 **could use less GAC by applying it after the**
9 **flocculent or after the primary --**

10 A. I --

11 **Q. -- clarifier?**

12 A. I have seen it often used past
13 filtration or clarification, past solid --
14 some kind of solid step in other systems
15 precisely because of that.

16 **Q. When -- now, when you say you've**
17 **seen it used, can you name us one plant?**

18 A. It's used in -- it's used as a
19 later step in almost all cases I've seen
20 for any time they're trying to get rid of
21 pretty much any type of volatile organic
22 carbon or other organic material.

23 **Q. Can you name us one plant?**

24 A. I -- I --

1 Q. You keep testifying, oh, I've
2 seen it all over the place, I've seen it
3 all over the place.

4 Give me the name of one
5 plant.

6 A. Let's see. I can think of -- I'm
7 not going to -- I'm not going to remember
8 the exact locations, but I can remember at
9 least three or four of them at groundwater
10 remediation systems, usually from groundwater
11 remediation systems for gasoline recovery
12 at old gas -- gas stations that had leaky
13 tanks.

14 It's used at the end of
15 Marathon Robinson's refinery. They had
16 activated carbon at the end of their
17 process prior to discharge.

18 It was used at another
19 remediation process in -- where is that?
20 That was a groundwater remediation process
21 in -- the place escapes me. I -- if I had
22 a map, I would find it in a second. The
23 name -- the name of the town is just not
24 coming to me.

1 Q. Okay. So if -- if -- if you --
2 as you just described it to us, you say that
3 you've seen GAC used sort of at the end of
4 the treatment process where it's treating
5 total flow because it -- I'm sorry -- it
6 got rid of solids and something else that --
7 something else that would gum it -- you were
8 concerned it would gum up the GAC, right?

9 A. Correct.

10 Q. Okay. So then when you first
11 reviewed Mr. Flippin's report shortly after
12 April of 2018, why were you concerned that
13 he had applied it at -- at the total flow
14 and you were concerned that he had -- had
15 overestimated the cost?

16 If all your experience is
17 that it is applied to total flow, why were
18 you concerned that he had overestimated the
19 cost?

20 MR. GRADELESS: That's a compound
21 question.

22 Can we get a clarifier on
23 which question we are asking?

24 HEARING OFFICER WEBB: Okay.

1 MR. DIMOND: I'll do it again.

2 BY THE WITNESS:

3 A. Sure.

4 BY MR. DIMOND:

5 Q. So in April of 2018 or shortly
6 thereafter, you reviewed his report on
7 granular activated carbon. You had a concern
8 at the time that he had overestimated the
9 cost because you thought he applied it to
10 total flow.

11 A. Uh-huh.

12 Q. But you just told us that all of
13 your experience with GAC is in situations
14 where it's applied to the total flow --

15 A. Uh-huh.

16 Q. -- for the reasons that you've
17 explained.

18 So now I'm -- now I'm trying
19 to figure out why in April or May of 2018 did
20 you think Mr. Flippin had overestimated the
21 costs?

22 A. Some of it was -- I didn't -- we
23 wanted to see if they only needed it for
24 certain products and some of it was -- if

1 you remember from the secondary treatment
2 section, there's four different bioreactors.

3 If it was possible to
4 optimize it so that they only needed to use
5 it maybe in one or two of the bioreactors,
6 but not have to go through all of it -- we
7 didn't know at the time that only one of
8 them was being used and even if it wasn't at
9 the time being only -- even if we did know
10 it at the time it was being used, it could
11 still -- when they fixed those -- all those
12 bioreactors, it's possible that they could
13 have only used it in some of those bioreactors.

14 That -- that would've cut
15 down on some of the flow because it would've
16 been split between them.

17 **Q. Now, your answer was filled with**
18 **possibly.**

19 A. Yes.

20 **Q. So I take it you haven't evaluated**
21 **any of this yourself?**

22 A. They have a very complex system with
23 a chemical that we haven't seen before that
24 has caused problems. So we don't have any

1 other data to show otherwise and we don't
2 have the possibility to -- at the EPA to
3 set up, you know, experiments or anything
4 to test these things.

5 Q. Now, the chemical that you're
6 saying that you haven't seen before is --

7 A. MBT.

8 Q. -- MBT?

9 A. Yes.

10 Q. That's the acronym that we've used
11 for --

12 A. Yes.

13 Q. -- Mercap- -- it's a lot easier than
14 saying Mercaptobenzothiazole, right?

15 A. It sure is.

16 Q. And you're not aware of any other
17 plant in the state of Illinois that has to
18 deal with MBT in its waste stream?

19 A. Correct.

20 Q. Okay. Now, in Lacon, you also told
21 us that you wanted to see granular activated
22 carbon evaluated on a part-time application
23 basis, right?

24 A. Right.

1 Q. So is this essentially the same
2 sort of idea that Mr. Twait had with respect
3 to the river water dilution alternative?

4 A. No. This is to what I just said
5 earlier, possibly using it only for certain
6 products.

7 Q. Okay. So when you said part-time,
8 you didn't mean part-time during the year,
9 you meant only for certain products?

10 A. Yes.

11 Q. So your idea isn't -- isn't
12 evaluating -- you wouldn't -- you're not
13 suggesting combining granular activated
14 carbon with some other treatment option,
15 I take it, right?

16 A. Not with something totally new
17 that's not, you know, already here.

18 Q. Okay. So -- you know, so what
19 you said in Lacon -- at 170 to 171, you
20 said, "We would have also liked to see in
21 combination with other treatment such that
22 maybe they would not have to use the
23 granulated carbon all the time."

24 So I -- you can understand

1 why, when I heard the phrase all the time,
2 I thought you were talking about different
3 times over the year, right?

4 A. Right. I -- I could see that.

5 Q. Okay. But what you really meant
6 was applying it to different waste treatments?

7 A. Right. And that was --

8 Q. That would -- and that would require
9 separating out different waste treatments,
10 right?

11 A. Not necessarily.

12 Q. Well, if you're going to --

13 A. Again --

14 Q. Well, don't you have to separate
15 them?

16 A. Separate them as in separate --
17 just split them from -- from the whole
18 possibly to each of the bioreactors. I
19 don't mean split them as in distill them
20 or do some -- some actual separation
21 process.

22 Q. Now -- now, in Lacon, after you --
23 after you testified in the way that I just
24 read into the record from Pages 170 to 171,

1 Mr. Gradeless asked you, "And was that analysis
2 provided?"

3 "Answer: The one I just
4 described?"

5 "Question: That's right."

6 "Answer: It was not."

7 So you've already testified,
8 though, that, you know, after you reviewed the
9 granular activated carbon -- well, actually
10 I'm not sure you have testified about this.

11 A. Okay.

12 Q. After you reviewed the granular
13 activated carbon alternative in -- in April
14 of 2018 or May of 2018, shortly after it was
15 provided --

16 A. Uh-huh.

17 Q. -- you didn't provide any comments
18 back to Emerald, did you?

19 A. No, I did not.

20 Q. You didn't provide any comments back
21 to Mr. Flippin, did you?

22 A. I did not.

23 Q. Okay. So how would -- Mr. Gradeless
24 asked if the analysis had been performed by

1 Emerald, how would Emerald have even known
2 that this was your idea and been able to
3 respond to it?

4 A. They wouldn't have.

5 Q. All right. Now, that April 2018
6 evaluation by Mr. Flippin also included an
7 evaluation of a river water dilution
8 alternative, right?

9 A. Correct.

10 Q. Now, with regard to that river
11 water dilution alternative, you agree with
12 Mr. Flippin's analysis of the necessary
13 temperature adjustment, how much dilution
14 would be needed and his estimate of the
15 costs, correct?

16 A. Correct.

17 Q. And I also understand from your
18 testimony that you believe that Emerald's
19 effluent can be spray irrigated under Illinois
20 EPA regulations, right?

21 A. Yes.

22 Q. And are those regulations that
23 you're referring to the 35 Illinois
24 Administrative Code Part 372?

1 A. Yes, partially. That, and Part 391.

2 Q. What is Part 391?

3 A. That's sludge application.

4 Q. Now, Part 372 is -- the title of it
5 is Illinois Design Standards for Slow Rate
6 Land Application of Treated Wastewater,
7 correct?

8 A. Correct.

9 Q. I'm -- is it correct that Section
10 372.110, part of Section Part 372, says that
11 these design standards apply to non-discharging
12 low rate land application of secondary and
13 tertiary treated domestic wastewater to land
14 upon which crops, turf or trees are grown?

15 A. Correct.

16 Q. It doesn't apply -- those regulations
17 don't apply to industrial wastewater, do they?

18 A. Yes, they do.

19 Q. The regulations say that they apply
20 to domestic wastewater, right?

21 A. Yes, they do.

22 Q. Okay. Is there anything in the
23 regulations that expressly says that they
24 apply to industrial wastewater?

1 A. We use that as a basis for all
2 our permits for -- for spray irrigation
3 of industrial wastewater.

4 **Q. When you say "we," who do you mean?**

5 A. The Illinois EPA.

6 **Q. The Bureau of Water?**

7 A. Bureau of Water.

8 **Q. Has the Bureau of Water adopted**
9 **any regulations that expressly apply to the**
10 **slow rate land application of industrial**
11 **wastewater?**

12 A. Nothing specific, no.

13 **Q. Has the Board adopted any regulations**
14 **that are for the land application of treated**
15 **chemical plant wastewater?**

16 A. No.

17 **Q. Now, there are federal regulations**
18 **that establish standards for land application**
19 **of sewage sludge, too, right?**

20 A. Yes.

21 **Q. And that's that 40 CFR Part 503?**

22 A. Yes.

23 **Q. Those regulations expressly do not**
24 **apply to sludge from an industrial operation,**

1 right?

2 A. As far as I know, yes.

3 Q. Are you aware of any federal
4 regulations that allow the spray irrigation
5 of an industrial plant wastewater?

6 A. We've -- we've given state operating
7 permits for spray irrigation and land
8 application of sludge for hundreds of
9 industrial wastewater discharges.

10 Q. Mr. Liska, I'm going to ask the --
11 that the question be read back and I --
12 if -- if he can answer the question that I
13 asked.

14 A. Okay.

15 (Whereupon, the requested
16 portion of the record was
17 read accordingly.)

18 BY THE WITNESS:

19 A. I'm not aware of anything that
20 prohibits it.

21 BY MR. DIMOND:

22 Q. Are you aware of any that allow it?

23 A. I am not.

24 MR. DIMOND: Could I ask that

1 that last -- could you read me back that last
2 answer?

3 (Whereupon, the requested
4 portion of the record was
5 read accordingly.)

6 BY MR. DIMOND:

7 Q. So you were saying you're not aware
8 of any federal regulations that prohibit
9 spray irrigation of an industrial plant
10 wastewater?

11 A. Correct.

12 Q. Okay. We don't need to introduce
13 this into the record. The Board can take
14 judicial notice of this.

15 I'm going to hand you a
16 copy -- I've only got one, but I'm going to
17 hand you a copy of 40 CFR Part 503.

18 (Document tendered
19 to the witness.)

20 BY THE WITNESS:

21 A. Okay.

22 BY MR. DIMOND:

23 Q. Which is the standards for use or
24 disposal of sewage sludge.

1 Now, I'm going to read --
2 I'm going to read some stuff from Part 503 --
3 from Section 503.6, which is titled
4 "Exclusions."

5 So does 503.6 state, "This
6 part does not establish requirements for use
7 of or disposal of sludge generated at an
8 industrial facility during the treatment of
9 an industrial wastewater."

10 A. Oh, yes.

11 Q. Okay. So these regulations don't
12 allow -- these regulations prohibit the
13 spray irrigation of industrial wastewater
14 under this set of regulations, right?

15 A. It says it does not establish
16 requirements for. I don't know if that's
17 the same thing as saying it prohibits
18 it.

19 Q. Emerald's wastewater sludge is
20 disclosed in a permitted landfill of a solid
21 waste, right?

22 A. What was that now?

23 Q. Emerald's wastewater sludge is
24 disposed in a permitted landfill as a solid

1 waste, right?

2 A. I believe so, yes.

3 Q. Now, would you like to take a --
4 you can use Exhibit 4 to refresh your
5 recollection if you would like.

6 Doesn't Exhibit 4 show that
7 the sludge goes to a landfill?

8 (Document tendered
9 to the witness.)

10 BY THE WITNESS:

11 A. Yes.

12 BY MR. DIMOND:

13 Q. Have you evaluated whether the
14 disposal of Emerald's wastewater effluent
15 be a spray irrigation and require the
16 receiving land to meet landfill standards?

17 A. If it would require...

18 Q. Have you evaluated whether the
19 disposal of Emerald's wastewater effluent
20 via spray irrigation would require the
21 receiving land to meet landfill standards?

22 A. Would -- would the spray irrigation
23 need to meet landfill standards?

24 Q. I think the question is pretty

1 straightforward.

2 Do you not understand the
3 question?

4 Are you familiar with the
5 Board's landfill regulations?

6 A. We're in the Bureau of Water.

7 Q. So you're -- so the answer is no,
8 you're not?

9 A. Right.

10 Q. Now, you just told us a little bit
11 ago that there's hundreds of applications
12 for sludge.

13 Now, in -- in Lacon, I was
14 a little confused by your testimony.

15 A. Okay.

16 Q. On Page 172, Mr. Gradeless asked
17 you, "Are you familiar with field application?"

18 "Answer: Yes. I'm -- I
19 do lots, many, many permits, easily over 100
20 of spray irrigation and land application of
21 sludge -- of industrial sludge in Illinois."

22 That's sort of similar to
23 what you told us just a few minutes ago, right?

24 A. Right.

1 **Q. So here's what I'm confused about.**

2 **Are you saying hundreds of --**
3 **hundreds of permits for land application of**
4 **sludge or of spray irrigation?**

5 A. It's -- it's mostly sludge, but,
6 I mean, there's still lots of spray irrigation.
7 It's possibly 25 percent to 75 percent going
8 to sludge, but we have at least dozens that
9 do spray irrigation as well.

10 **Q. So this -- you know, this -- your**
11 **estimate that there's hundreds, how did you**
12 **come up with that figure?**

13 A. Thinking of how many I've done and
14 then knowing I only get a quarter or a fifth
15 of the total due to their being usually four
16 or five of us in the -- in our industrial
17 group, if I can figure out how many I've done
18 and multiply it by four or five.

19 **Q. Okay. So you've estimated that**
20 **there's hundreds of which you say you think**
21 **about 25 percent are spray irrigation?**

22 A. Yeah, that sounds about right.

23 **Q. How many of the -- of the 25 percent,**
24 **how many of those allow the spray irrigation**

1 of an industrial wastewater effluent as opposed
2 to a domestic sewage effluent?

3 A. Oh, I'm talking about just industrial
4 sludges.

5 Q. Okay.

6 A. My section doesn't do municipal.

7 Q. Okay. So let's separate spray
8 irrigation from sludge.

9 A. Okay.

10 Q. Okay. So when you're -- when
11 you're talking about the 25 -- all the
12 25 percent you're talking about, you think
13 are industrial wastewater?

14 A. Uh-huh.

15 Q. How many of those spray irrigation
16 permits that you're talking about are for
17 an -- are for an organic chemical plant
18 effluent?

19 A. I know of one.

20 Q. And the one you know about is
21 AkzoNobel, right?

22 A. Yes.

23 Q. Now, as to AkzoNobel, they
24 have drain tile under their field that

1 collects all of the wastewater backup
2 and discharges it out through their
3 Outfall No. 1, right?

4 A. Yes.

5 Q. Now, during your deposition, you
6 didn't recall that.

7 Have you studied up on it
8 since?

9 A. I think I did look at their permit
10 and I -- I recall it mentioning drain tiles,
11 yes.

12 Q. So they don't really dispose of
13 their wastewater through spray irrigation
14 as you suggested Emerald should, right? They
15 collect it all back up and discharge it through
16 the outfall?

17 A. No. They spray irrigate it at times
18 and anything -- if there's overspray or the
19 drain tiles are pretty much -- if there's rain
20 or just kind of overspray or something, it would
21 still kind of -- it would -- it would make it
22 so that you wouldn't have saturation or pooled
23 up water --

24 Q. All that water --

1 A. -- in their fields.

2 Q. All that water is collected up in
3 the drain system and discharged out the outfall,
4 correct?

5 A. Well, after -- after the crops have
6 taken what they want, yeah.

7 Q. You don't do the permitting for
8 AkzoNobel, right?

9 A. I have done it in the past. I don't
10 think I renewed it recently. I think that went
11 through another engineer.

12 Q. Again, I'm not going to mark this
13 as an exhibit, but I'm going to hand Mr. Liska
14 a document that the Board can take public
15 notice of. It's an appeal of the NPDES
16 permit and request for partial stay of
17 the permit by AkzoNobel filed March 25,
18 2013, in the matter of PCB 2013-049.

19 Now, Mr. Liska, Exhibit 1
20 to this appeal is the AkzoNobel permit that
21 existed at that time.

22 Can you show me where in
23 the permit it refers -- in the permit itself,
24 in Exhibit 1, that it refers to the spray

1 **irrigation system?**

2 **(Document tendered**
3 **to the witness.)**

4 BY THE WITNESS:

5 A. It does not refer to it in this
6 permit.

7 BY MR. DIMOND:

8 Q. Well, it -- so in the permit itself,
9 it doesn't refer to the spray irrigation
10 system, right?

11 A. No.

12 Q. Okay. Now, in fairness, if you look
13 at Exhibit 2 to the appeal, that is a -- that
14 includes a public notice fact sheet as well
15 as a draft permit -- as well as a draft permit.

16 A. Okay.

17 Q. And -- let's see -- it's going to
18 be the second page of Exhibit 2 of that
19 appeal, in the public notice fact sheet,
20 it actually does reference the spray irrigation
21 system, right?

22 A. Well, what page is that on the fact
23 sheet?

24 Q. Well, it's on the -- it's on the

1 **first page of the public notice fact sheet**
2 **right after the letter dated December 7, 2012.**

3 MR. GRADELESS: Is there a Bates
4 number I could look at it?

5 MR. DIMOND: No, because I pulled
6 it off the Board's website.

7 BY THE WITNESS:

8 A. Is it this paragraph you're talking
9 about?

10 BY MR. DIMOND:

11 Q. Yes.

12 A. Oh, okay. Let me read --

13 Q. So in that --

14 A. -- it real quick.

15 Q. -- in that paragraph in the public
16 notice fact sheet, it does reference the spray
17 irrigation, right?

18 A. Yes.

19 Q. But it's -- but there's no
20 reference to the speedway irrigation actually
21 in the permit itself, correct?

22 MR. GRADELESS: Can we -- can we
23 see what the witness is looking at?

24 HEARING OFFICER WEBB: Yes.

1 MR. GRADELESS: I would appreciate
2 that.

3 HEARING OFFICER WEBB: Did you want
4 to approach?

5 MR. GRADELESS: I just never -- I
6 don't know whether I've seen that or not.

7 BY MR. DIMOND:

8 Q. But -- but you already told us
9 that --

10 MR. GRADELESS: Do you want me to
11 just --

12 MR. DIMOND: You can look over his
13 shoulder.

14 MR. GRADELESS: -- look over his
15 shoulder?

16 HEARING OFFICER WEBB: Yes. Okay.

17 MR. GRADELESS: Okay. I want to
18 make sure -- go ahead.

19 THE WITNESS: He's looking at
20 this last paragraph here.

21 MR. GRADELESS: Okay.

22 BY MR. DIMOND:

23 Q. But even though it's referenced
24 in the public notice fact sheet, there's

1 no reference to the spray irrigation in
2 the permit itself, correct?

3 A. No.

4 Q. And the -- Mr. Liska, just --
5 just to make sure that we're not inadvertently
6 miscommunicating --

7 A. Uh-huh.

8 Q. -- when I asked you whether or not
9 the permit itself made any reference to spray
10 irrigation, I said it doesn't, does it,
11 correct? And then I think you said no.

12 But --

13 A. Oh, I mean no as in it doesn't --
14 the permit doesn't.

15 Q. Yes. Yes, I was correct that it
16 doesn't make any reference to the spray
17 irrigation, the permit itself?

18 A. Yes.

19 Q. Okay. And the public notice --
20 the -- the little paragraph in the public
21 notice fact sheet that makes reference to
22 it, that paragraph doesn't tell us anything
23 about the spray field or what's being grown
24 in the spray field, does it?

1 A. Correct. Well, no. Oh, it mentions
2 the 65-acre spray field.

3 Q. But it doesn't tell us what its
4 being -- what plant its being sprayed onto,
5 does it?

6 A. What -- oh, what type of -- correct.

7 Q. Okay. If -- if Emerald limited its
8 spraying irrigation concept to the 80 acres
9 that it owns, have you evaluated whether or
10 not Emerald would be able to install drain
11 tile and collect all of its spray irrigation
12 water and discharge it to the Illinois River?

13 A. No, we haven't considered that.

14 Q. Mr. Flippin evaluated that, didn't
15 he?

16 A. Yes.

17 Q. So now in Lacon, you told us that
18 you thought that Emerald should evaluate
19 spraying its wastewater over hundreds or
20 thousands of acres.

21 Have you evaluated whether
22 Emerald would be able to install drain tile
23 and collect all of its spray irrigation
24 from over hundreds of thousands of acres

1 and collect it back up and discharge it to
2 the Illinois River?

3 A. Although AkzoNobel does have a
4 drain tile system, it's not required for
5 this -- for what I was envisioning.

6 Q. That isn't the question I asked.
7 I asked have you evaluated whether or not
8 Emerald could install drain tiles on hundreds
9 of thousands of acres to collect up all of
10 its wastewater and discharge it through
11 the -- to the Illinois River?

12 A. No, we didn't. It wasn't necessary.

13 Q. Have you ever designed a spray
14 irrigation system?

15 A. No.

16 Q. Have you ever calculated the rate
17 at which an effluent can be sprayed onto corn
18 or soybeans or any other crop?

19 A. Yes.

20 Q. When did you do that?

21 A. We have to do that every time we
22 do a spray irrigation permit.

23 Q. So we -- we've seen that AkzoNobel's
24 nipped these permits, the permit that we just

1 looked at. It doesn't say -- the permit itself
2 doesn't say anything about spray irrigation.

3 Is it your belief that
4 AkzoNobel would have a separate permit that
5 provides for the spray irrigation?

6 A. That's usually the case, yes. Spray
7 irrigation is done through a state operating
8 permit.

9 Q. Okay. What do you mean when you
10 say the state operating permit?

11 A. Well, an example would -- well,
12 that's actually a construction permit, but
13 an example is the one you showed previously,
14 that ExxonMobil construction permit, it --
15 it's along those lines except it's a five-year
16 operating permit.

17 Q. So they have to renew that permit
18 every five years?

19 A. Yes. We -- if you get a state
20 operating permit for spray irrigation, we
21 generally have them renew it every five
22 years.

23 Q. I -- I don't recall -- I -- I
24 went through all of the AkzoNobel documents

1 that were produced by the Agency in this
2 proceeding myself. I didn't even delegate
3 that to anybody.

4 A. Okay.

5 Q. I don't recall seeing any permit
6 that was a construction permit or otherwise
7 seemed to specifically mention spray
8 irrigation. So I'm -- I'm con- -- you know,
9 I'm confused.

10 Did I -- do you think I missed
11 it?

12 A. I don't think so. For some reason,
13 we couldn't find it either. I'm not entirely
14 sure why AkzoNobel does not have -- in
15 particular does not have an operating permit
16 to spray irrigate, but I'm pretty sure that
17 they don't.

18 But the normal process --
19 procedure would be that for a company to
20 get a spray irrigation state operating
21 permit if that's what they want to do.

22 Q. Do you think the reason that they
23 don't have a -- well, first of all, I'm glad
24 that I -- that you don't think I missed it

1 because I went through the documents in
2 excruciating detail. It was, like, I don't
3 know, it was 1,500 to 2,000 pages.

4 A. Right.

5 Q. So do you think that the reason they
6 don't have it is because they got the drain
7 tile and they collect it all up -- they collect
8 all the remains up and discharge it out Outfall
9 1?

10 A. That's possible. Yeah, that is a
11 possibility.

12 Q. Now, so going back to your testimony
13 about spray irrigating over hundreds of
14 thousands of acres, so I -- I take it that
15 it's -- it's your position Emerald should be
16 able to spray irrigate its effluent on corn
17 or soybean crops, right?

18 A. Yes, pretty much any crop. I mean,
19 as long as we see what they're doing, but we
20 haven't evaluated every crop.

21 Q. So is -- isn't the problem with
22 spray irrigating Emerald's effluent a problem
23 of whether or not you can do it?

24 Isn't that a problem of

1 concentration versus one of loading?

2 A. Yes. That's one of the things
3 that we would look at -- look at.

4 Q. So it's the concentration in the
5 root zone of the effluent that makes a
6 difference, right?

7 A. Yes.

8 Q. Now, in Lacon, on Pages 176 to 177,
9 I'm starting on Line 22, you said, "He --"
10 and I think you're referring to Mr. Flippin --
11 "mentioned that there was high salt loads
12 although he didn't mention what type of salt.
13 He mentioned high salt loads in the waste
14 in the spray irrigation discharge and he
15 calculated over hundreds of thousands of
16 acres that would have mitigated the loading
17 and not caused a problem."

18 So when I read your testimony,
19 it sounded to me like you thought that the
20 problem was the loading, not the concentration?

21 A. Oh, yeah. When I said concentration,
22 I really meant loading.

23 Q. So I'm sorry. When you said load
24 in Lacon, you really meant concentration?

1 A. No, no, no. What I just said now
2 when you say concentration and I agreed, I
3 really meant loading. Our calculations are
4 based on loading.

5 **Q. So when you say loading --**

6 A. When we do these permits, they're
7 based on loading.

8 **Q. When you say loading, do you mean**
9 **pounds per day?**

10 A. Yes.

11 **Q. So -- so it's your testimony that**
12 **it's the pounds per day in the root zone**
13 **that makes a difference, not the concentration?**

14 A. Correct.

15 **Q. So when -- when you were -- you know,**
16 **when you were thinking this idea that you've**
17 **got of spreading over hundreds of thousands of**
18 **acres --**

19 A. Uh-huh.

20 **Q. -- were you anticipating that the**
21 **effluent would be diluted with river water?**

22 A. I was not anticipating that, no.

23 **Q. So if the effluent has a certain**
24 **amount of salt in it --**

1 A. Uh-huh.

2 Q. -- would you then just apply less
3 water per day to, you know, an acre or other
4 unit of land?

5 A. Well, as you spray on more and
6 more acreage, your loading per acre will
7 be less because you're dividing it by more
8 land.

9 Q. So -- so in -- in your hypothetical --

10 A. Uh-huh.

11 Q. -- you're anticipating that -- and
12 I'm just going to use numbers to just make
13 a relative point. Instead of putting 100
14 pounds of wastewater per acre per day, you
15 might only put ten pounds of wastewater per
16 acre per day, is that your idea?

17 A. Correct.

18 Q. So have you made any calculations
19 as to the amount of the undiluted wastewater
20 per day that could be put onto an acre of
21 land without harming corn or soybeans?

22 A. We haven't received a permit
23 application for it, so no.

24 Q. Well, I'm asking -- you came here

1 and testified about that to the Board.

2 A. Yes.

3 Q. You know, you're -- you're coming
4 here and testifying about this to the Board --

5 A. Uh-huh.

6 Q. -- and saying that this is a viable
7 option.

8 So what I'm asking irrespective
9 of a permit application, if you're going to
10 tell the Board that this is is possible idea,
11 I want to know if you've done any calculations
12 to actually show that it's a possible idea.

13 It sounds like the answer
14 is no, you haven't done any calculations?

15 A. We don't have the information of
16 what is in their wastewater for -- for those
17 constituents, so no.

18 Q. You don't?

19 A. Not -- not as far as salt,
20 phosphorous, potassium, metals loading.
21 So what's required in that --

22 Q. Mr. Liska, look at -- I want you
23 to look at Petitioner's Hearing Exhibit 12.
24 It's in the blue binder here.

1 A. Oh.

2 Q. I'm looking at Petitioner's Hearing
3 Exhibit 12 is Mr. Flippin's October 11, 2019,
4 expert report?

5 A. Uh-huh.

6 Q. I'm looking on Page 6 at Table 1.

7 A. Page 6.

8 Q. Doesn't that provide you information
9 on the level of fluoride and sulfate and
10 various metals and salts and other factors
11 with regard to the wastewater?

12 A. Yes, it does.

13 Q. So you haven't taken this information
14 and made any calculations to show that your
15 idea of applying this over hundreds of thousands
16 of acres -- you haven't done any calculations
17 to show the Board that that idea is actually
18 feasible, have you?

19 A. Correct.

20 Q. If -- if the undiluted wastewater
21 was sprayed on a corn or soybean field and --
22 let me start over.

23 A. Uh-huh.

24 Q. So you understand that one of

1 Mr. Flippin's concerns is that the level
2 of salt in the undiluted wastewater is --
3 is high enough that it could harm certain
4 crops, right?

5 A. Yes.

6 Q. So then if the normal -- so if
7 you're going to apply that wastewater to --
8 and spray irrigation onto corn or soybeans,
9 I take it in your idea of spreading it over
10 hundreds of thousands of acres instead of
11 spreading it at, say, you know, a normal
12 rate --

13 A. Uh-huh.

14 Q. -- you would have to lower the
15 rate per acre per day, is that -- is that
16 your idea?

17 A. Yes.

18 Q. Okay. So if you lower the rate
19 per acre today -- the per day --

20 A. Uh-huh.

21 Q. -- so that the salt is no longer
22 a problem for the crops in -- in your
23 hypothetical --

24 A. Uh-huh.

1 Q. -- have you done any calculations
2 on what that would do to the amount of
3 ammonia that's in the water that's being
4 sprayed on the crops per acre per day?

5 A. No. I have not done those
6 calculations.

7 Q. But logically, if you're -- if
8 you're decreasing the amount of water per
9 acre per day, you're also decreasing the
10 amount of a money per year acre per day,
11 correct?

12 A. Correct.

13 Q. And that's going to impact whether
14 or not there's any agronomic benefit to
15 spraying it on corn and soybeans, right?

16 A. It would lower the agronomic
17 benefit, but it wouldn't eliminate it.

18 Q. How do you know it wouldn't
19 eliminate it if you haven't done any
20 calculations?

21 A. Well, we know that it's -- pretty
22 much anything over zero is going to be an
23 agronomic benefit. It's not that, you know,
24 its being replaced with something else.

1 This is in addition to any other -- in
2 addition to any other thing that they do.

3 So adding it would be --
4 and adding any load of nitrogen would be
5 helpful and would be of benefit as opposed
6 to not doing it at all.

7 Q. Have you ever been a farmer?

8 A. No.

9 Q. Now, if you're a farmer and
10 somebody comes to you and says, you know,
11 I'd like to spray irrigate my -- my water
12 on your land --

13 A. Uh-huh.

14 Q. -- but I've done the calculations
15 and you can spray irrigate this water, but
16 you're still going to have to apply more
17 ammonia anyway because there's not that
18 much ammonia once I reduce the rate?

19 A. Uh-huh.

20 Q. Do you really think many farmers
21 would go for that?

22 A. Well --

23 MR. GRADELESS: Objection, lack
24 of foundation. He testified he's not a

1 farmer.

2 HEARING OFFICER WEBB: Well, you
3 can answer if you know.

4 MR. DIMOND: I'll withdraw the
5 question. I think it's pretty obvious what
6 the answer is and Mr. Gradeless just answered
7 it.

8 BY MR. DIMOND:

9 Q. If -- so to evaluate whether
10 crops can receive -- any crop can receive
11 the undiluted effluent without being
12 damaged, wouldn't you need to know or
13 wouldn't you want to know the total of
14 dissolved solids content or the electrical
15 conductivity of Emerald's effluent?

16 A. Yes. That's part of our
17 calculations.

18 Q. What is the total dissolved solids
19 content of Emerald's effluent?

20 A. It says here 10,000 milligrams
21 per liter of total dissolved solids.

22 Q. When you say it says here,
23 you're reading from the -- Table 1 on
24 Page 6 of Petitioner's Hearing Exhibit

1 12, right?

2 A. Correct.

3 Q. Did you remember it independently?

4 A. I knew it was somewhere around
5 that number.

6 Q. With that level of total dissolved
7 solids, what would the electro- -- what would
8 the -- let me start over.

9 With that level of total
10 dissolved solids, what would the electrical
11 conductivity of the effluent be?

12 A. I -- I couldn't tell you.

13 Q. Would it be about 15.5 millimhos
14 per centimeter?

15 A. 15.5 what?

16 Q. Millimhos per centimeter.

17 A. I -- I -- I don't know.

18 Q. Are you familiar with the monograph
19 titled "Design and Operation of Farm Irrigation
20 Systems" by M. Eli Jensen that was published
21 in 1980?

22 A. No.

23 Q. Do you know if there's an electrical
24 conductivity threshold above which irrigation

1 **water would decrease corn yield?**

2 A. I can't remember if that was in
3 Part 372. I think -- I think we have a -- a
4 limit to it. I don't recall what it is at
5 the moment.

6 **Q. Could corn survive being sprayed**
7 **with an effluent that has an electrical**
8 **conductivity of 15.5 millimhos per centimeter?**

9 A. I don't know.

10 **Q. Could soybeans survive being**
11 **sprayed with an effluent that has an**
12 **electrical conductivity of 15.5 millimhos**
13 **per centimeter?**

14 A. I don't know for any crops what
15 the electrical conductivity -- what --
16 what the limit is offhand.

17 **Q. So in Lacon, you told us that**
18 **tertiary nitrification approaches could**
19 **be applied to the wastewater from the PVC**
20 **tank.**

21 **Do you remember that?**

22 A. Yes.

23 **Q. But if -- if you were applying**
24 **a nitrification approach to the PVC tank**

1 separately, that really wouldn't be tertiary
2 nitrification. That would just be a
3 separate treatment for the PVC tank, wouldn't
4 it?

5 A. Right.

6 Q. So that's not really tertiary
7 nitrification, is it?

8 A. Oh, no, not really.

9 Q. Because tertiary nitrification is
10 really nitrification after a secondary
11 clarifier still, right?

12 A. Right.

13 Q. And this separate treatment train
14 for the PVC tank, you'd have to have a
15 separate -- a separate primary clarifier,
16 a separate activated sludge bioreactor,
17 maybe even a separate secondary clarifier,
18 right?

19 A. There would have to be some kind
20 of separate solids -- solids treatment, yes.

21 Q. In fact, this idea of treating
22 the PVC tank wastewater separately is not
23 really a new idea that you came up with,
24 right?

1 A. Oh, I'm sure other people have come
2 up with it too.

3 Q. Wasn't that alternative of separately
4 treating the PVC tank flow evaluated by Mr. --
5 evaluated by Flippin in connection with the
6 first adjusted standard?

7 A. Oh, yes.

8 Q. And so the Board has already found
9 that alternative to be economically unreasonable
10 twice, right?

11 A. I believe so, yes.

12 Q. Now, I read through your testimony
13 in Lacon. I didn't -- you know, what new
14 factors have you identified that would indicate
15 that the Board's prior determinations are
16 wrong?

17 A. Regarding?

18 Q. Regarding your idea of treating the
19 PCV tank wastewater separately?

20 A. Because treating the PVC tank...

21 Q. Do -- do you need me to repeat the
22 question?

23 A. That's all right.

24 We -- we looked at it based

1 on -- we knew things had changed in the last
2 five years with new owners, possibly new --
3 a new relationship between Emerald and
4 Mexichem. We didn't know if there was any
5 new flows or new other stuff.

6 We knew that the -- there
7 were new product -- not new products. There
8 was a change in how products were run from
9 the other tanks. So we thought that it
10 should be evaluated considering that there
11 is no -- considering that there was no MBT
12 in the PVC tank. We thought there would
13 be a -- this would be a good time to update
14 it to see if there was anything new as far
15 as what was going -- what would have to be
16 treated.

17 **Q. Mexichem has been at the plant**
18 **for over a decade. I -- I don't know.**
19 **You -- you said that there was some new**
20 **relationship between Emerald and Mexichem.**
21 **I -- I'm not aware of it.**

22 **What are you talking**
23 **about?**

24 **A. Since the last permit recycle,**

1 it wasn't -- they weren't separate enti- --
2 entities.

3 **Q. What do you mean they weren't**
4 **separate entities --**

5 A. It was all on --

6 **Q. -- since the last permit cycle?**

7 A. As far as I remember, it was all
8 one permit and then we split it into --
9 well, we actually split it for a time. It
10 was both Emerald and Mexichem were both on
11 the same permit.

12 Now, Emerald is just on the
13 permit with Mexichem not on it at all.
14 We -- we didn't know if there was any
15 other changes.

16 We know that they have
17 a relationship between each other even
18 though they're separate entities. They
19 share lots of costs. They share power
20 and everything else.

21 So we wanted an update
22 on -- to see if it was possible if any --
23 if anything had changed.

24 **Q. The -- the operation of the PVC**

1 side of the plant --

2 A. Uh-huh.

3 Q. -- and the -- and the -- let me
4 start over.

5 The operation of the polymer
6 chemical side of the plant has been separated
7 and in a separate company from the operation
8 of the accelerator side of the plant --

9 A. Uh-huh.

10 Q. -- for almost 20 years, hasn't it?

11 A. It's possible.

12 Q. I mean, that separation goes back
13 into the mid 1990s, doesn't it?

14 Why would that have any
15 impact on the evaluation of separately
16 treating the PVC tank?

17 A. If flows had changed.

18 Q. Are you aware of any information
19 that flows have significantly changed between
20 the two sides of the plant?

21 A. I have not.

22 Q. Well, I -- so in a single stage
23 nitrification wastewater treatment system,
24 are there pollutants other than ammonia

1 that are reduced and removed as well?

2 A. BOD can be removed as well.

3 Q. So the answer to my question is
4 yes?

5 A. Oh, yes.

6 Q. Okay. So what other pollutants
7 are removed?

8 A. BOD can be removed. Sometimes
9 a little bit of suspended solids can come
10 out of it.

11 Q. Can chemical oxygen demand be
12 reduced as well?

13 A. Yes.

14 Q. Now, in Lacon, from Page 155 of
15 the transcript, you seem to say that just
16 about any industrial facility as well as
17 municipal facilities that have BOD and
18 ammonia in their discharge will use tertiary
19 nitrification.

20 Isn't that really just a
21 single stage nitrification that you just
22 described to us?

23 A. It is. Tertiary -- the words
24 tertiary nitrification were used a lot in

1 that one and I think it was used a lot by
2 both sides of any type of nitrification.

3 Q. When you say "in that one," do
4 you mean --

5 A. It means --

6 Q. -- in the testimony at Lacon?

7 A. The Lacon testimony, yes.

8 Q. So -- so on Page 155 where you
9 said just about any industrial facility as
10 well as municipal facilities that have BOD
11 and ammonia in their discharge, will use
12 this type of nitrification to lower their
13 BOD and their ammonia in the discharge,
14 you were talking about single stage
15 nitrification, right?

16 A. Yes.

17 Q. On Page 158 of the Lacon testimony
18 starting on Line 1, you said, "After the
19 secondary clarifier where they" -- meaning,
20 Emerald -- "have no more MBT, their discharge
21 is substantially similar to just about any
22 other industrial facility that has biological
23 such as food or other chemical industries
24 that does not have nitrogen -- nitrifying

1 inhibition."

2 Doesn't that ignore the
3 difference between Emerald and those other
4 facilities?

5 A. What do you mean?

6 Q. Well, those other facilities can
7 nitrify right after the primary clarifier,
8 right?

9 A. Correct.

10 Q. But Em- -- but Emerald has never
11 been able to nitrify right after the primary
12 clarifier, right?

13 A. Correct.

14 Q. And isn't that the difference
15 between Emerald and all these other plants?

16 A. Right.

17 Q. Now, the Petitioner applied for
18 the first adjusted standard for the Henry
19 plant with a company called Noveon® that
20 owned and operated the plant before Emerald,
21 right?

22 A. Right.

23 Q. Okay. Didn't they do some
24 laboratory scale continuous flow treatability

1 studies that focused on tertiary nitrification
2 with alkalinity addition back in 2004 or so?

3 A. Yes, I believe they did.

4 Q. And isn't it also true that when
5 Mr. Flippin did his evaluation of treatment
6 alternatives in 2004 or thereabouts, he
7 considered tertiary nitrification after
8 the secondary clarifier at that point as
9 well, right?

10 A. I think he did, yes.

11 Q. So for the tertiary nitrification
12 after secondary clarifier to even be considered
13 as an option, there would have had to have
14 been some information that there wasn't a
15 significant amount of MBT after the secondary
16 clarifier at that time, right?

17 A. I can't re- -- I don't know. I can't
18 remember if they made that point in that
19 analysis back then.

20 Q. Would it make any sense to consider
21 tertiary nitrification if you had significant
22 levels of MBT in the wastewater after the
23 secondary clarifier?

24 A. No.

1 **Q.** **So the fact that the alternative**
2 **was considered in 2004 means that somebody**
3 **must have thought at least at some points**
4 **in time you could get MBT pretty low or**
5 **nonexistent after the secondary clarifier,**
6 **right?**

7 MR. GRADELESS: Speculation as
8 to what somebody must have thought.

9 MR. DIMOND: He's been put on
10 as a so-called expert about this and he's
11 testified all about it.

12 MR. GRADELESS: Well, I don't
13 even know who this somebody is.

14 MR. DIMOND: So I can ask him --

15 MR. GRADELESS: I mean --

16 MR. DIMOND: I can ask him
17 hypothetical questions and this is a
18 hypothetical.

19 HEARING OFFICER WEBB: Overruled.
20 Go ahead.

21 BY MR. DIMOND:

22 **Q.** **So if somebody -- if a -- if a**
23 **treatment alternative professional was**
24 **considering tertiary nitrification in 2004 --**

1 A. Uh-huh.

2 Q. -- then there had to be some
3 information that would lead that professional
4 to think that after the secondary clarifier,
5 there was low enough MBT that you could
6 actually get nitrification to occur, right?

7 A. Yes.

8 Q. Because otherwise, it wouldn't make
9 any sense to -- if -- if -- if you thought the
10 MBT was going to be there at levels that would
11 inhibit nitrification, it wouldn't make any
12 sense to even consider tertiary nitrification,
13 would it?

14 A. Correct.

15 Q. But the work that was done by Noveon®
16 and Mr. Flippin also indicated that there were
17 concerns about the variability of the secondary
18 clarifier effluent in 2004, right?

19 A. Yes.

20 Q. And so, in fact, tertiary
21 nitrification is not some brand new idea.
22 Noveon® and Emerald and Mr. Flippin have
23 been studying this for over 15 years,
24 right?

1 A. Yes, they have. I believe one
2 of the problems was they -- they -- like
3 you said, they couldn't always have all
4 the MBT out and that was probably their
5 main conclusion of why tertiary nitrification
6 wouldn't work at that time.

7 Q. Now, in Lacon, you also told us
8 that one of your ideas was to rehab the
9 three bioreactors that are currently not
10 being used for activated sludge treatment
11 and then use them to actually do tertiary
12 nitrification after the secondary clarifier,
13 right?

14 A. Yes.

15 Q. Now, as -- as I recall, you told
16 us about how you would route the flow from
17 the 1.4 million-gallon tank to the secondary
18 clarifier and then back to the other three
19 bioreactors, but I don't recall you telling
20 us where it goes after those other three
21 bioreactors.

22 So what would you have
23 to do with the flow after those other
24 three bioreactors?

1 A. After that, it would go straight
2 to the sand filters and that would be the
3 final treatment.

4 Q. So it's your testimony that you
5 don't think that you would need any kind
6 of filtration step between the three
7 bioreactors and the sand filters?

8 A. A sand filter is a filtration
9 step.

10 Q. Have you evaluated what the
11 impact would be of sending effluent from
12 the -- that tertiary nitrification step
13 on the sand filter?

14 A. No. We don't have any data on
15 it.

16 Q. And you know you are testifying
17 before the Board here on this. You haven't
18 done any evaluation of the cost of this
19 alternative of rehabbing the three
20 bioreactors and turning them over into
21 tertiary nitrification, right?

22 A. No, we haven't done that.

23 Q. Okay.

24 A. What we do -- what I've based it

1 on is that in the vast majority of cases,
2 rehabbing the old -- old systems will cost
3 less than putting up whole new tanks.

4 Q. Have you ever designed the rehab
5 of an old tank?

6 A. No, but I've permitted it.

7 Q. Okay. But you haven't designed
8 it?

9 A. No.

10 Q. You haven't constructed it,
11 right?

12 A. Yes.

13 Q. And haven't done a cost evaluation
14 for the Board, right?

15 A. Not for the Board. I've seen cost
16 evaluations --

17 Q. Well --

18 A. -- done for both.

19 Q. -- you haven't done a cost
20 evaluation for the Henry plant for the
21 Board for this idea of rehabbing the
22 biotreatment, right?

23 A. No, I haven't.

24 Q. So you haven't provided the Board

1 any information by which they can compare
2 the cost of that alternative to the cost
3 of Mr. Flippin's tertiary nitrification
4 proposal using rotating biological contactors,
5 right?

6 A. Right.

7 Q. And since you haven't costed this
8 out, there's no way to compare the cost of
9 your approach to Mr. Flippin's evaluation
10 of the cost of using an ion-exchange resin,
11 correct?

12 A. Correct.

13 MR. GRADELESS: Objection,
14 speculation.

15 HEARING OFFICER WEBB: Overruled.
16 Do you want to repeat the question?

17 THE COURT REPORTER: He -- he
18 answered correct.

19 HEARING OFFICER WEBB: Oh, he
20 answered?

21 MR. DIMOND: Did you get the
22 question and answer and the objection and --

23 THE COURT REPORTER: Got it all!
24

1 BY MR. DIMOND:

2 Q. Now, I know -- I know that you
3 talked about this other idea, this sort
4 of 2-A idea of tertiary nitrification
5 using baffles.

6 A. Uh-huh.

7 Q. And we're going to get to the
8 baffles.

9 A. Great.

10 Q. But if -- if just those -- if
11 those three bioreactors were rehabbed and
12 used for tertiary nitrification, wouldn't
13 Emerald need to build a --a new tank to
14 provide redundancy for its 1.4 million-gallon
15 tank that's currently doing secondary
16 treatment with activated sludge?

17 A. That would be one option. They
18 could also -- we've seen a lot -- they could
19 also rent treatment units for that.

20 Q. They can rent a 1.4 million-gallon
21 treatment unit?

22 A. Well, they -- they can rent -- what
23 I have seen through my experience of -- they
24 can rent a large array of different things

1 during -- during times -- I have seen during
2 times when they're rehabilitating systems.

3 Q. That's not very specific, Mr. Liska.

4 A. Sure.

5 Q. Let me ask you this. Don't you
6 think it would be a -- don't you think it
7 would be a good idea to have some permanent
8 redundancy for the secondary treatment step
9 at the plan?

10 A. Yes.

11 Q. So a temporary solution isn't
12 going to provide that permanent redundancy,
13 is it?

14 A. You -- you wouldn't need pertinent
15 redundancy in this case. The systems -- if
16 you -- you usually have a schedule of when
17 you're going -- of when you know you're going
18 to be rehabbing these systems so you can
19 have that all in place beforehand.

20 Q. Okay. So -- so you don't think
21 that the plant needs pertinent redundancy
22 on the 1.4 million-gallon secondary treatment
23 activated sludge tank?

24 A. No.

1 MR. GRADELESS: I don't want to
2 ruin your flow here, but you tell me when we
3 can take a bathroom break. This side of
4 the aisle would appreciate it. You can
5 keep going until you can find a good time.

6 HEARING OFFICER WEBB: How
7 many do you have left, Tom?

8 MR. DIMOND: Well, I'm not sure
9 how much I have left, but if -- we can take
10 a break.

11 HEARING OFFICER WEBB: Would it be
12 okay to take five?

13 MR. DIMOND: Taking five now would
14 be fine.

15 HEARING OFFICER WEBB: Okay.

16 (Whereupon, after a short
17 break was had, the following
18 proceedings were held
19 accordingly.)

20 HEARING OFFICER WEBB: All right.
21 Let's go back on the record.

22 Mr. Dimond?

23 MR. DIMOND: Thank you Hearing
24 Officer Webb.

1 BY MR. DIMOND:

2 Q. Mr. Liska, in Lacon, you testified
3 about how you thought Emerald could solve the
4 ammonia issue just by installing a baffle
5 system inside each of the four bioreactor
6 tanks, right?

7 A. Yes.

8 Q. On a scale of one to five, how
9 important do you consider that idea?

10 MR. GRADELESS: Objection. One
11 to five, what does that mean? I just --
12 vague.

13 HEARING OFFICER WEBB: I don't
14 know. I'll allow it.

15 MR. GRADELESS: Okay. Is five
16 good or one bad?

17 HEARING OFFICER WEBB: Well, yes.
18 Clarify.

19 MR. DIMOND: Well, five is good --
20 well, one is the good side and five is the not
21 very important side.

22 HEARING OFFICER WEBB: Thank you.

23 BY THE WITNESS:

24 A. Oh, okay. We're trying to figure

1 out a way how to successfully nitrify. If
2 that is a way to do it in this case, then
3 it would be important. Otherwise, there's --
4 you know, we've come up with a lot of different
5 possibilities here.

6 Maybe a three because it's
7 somewhat -- it -- it looks like it's possible,
8 but we haven't gone down the road of some
9 really hard engineering steps yet to see if
10 it's possible.

11 BY MR. DIMOND:

12 **Q. So you're -- so you're admitting**
13 **to the Board that you don't really know if**
14 **it's possible that it will work?**

15 A. I know a system like this can work
16 to nitrify and it can solve the problem of
17 having limited space and for both the initial
18 nitrification and tertiary nitrification.

19 It seems to fit all of the
20 boxes of being able to solve this engineering
21 problem.

22 **Q. So I understood your testimony**
23 **in Lacon to be you thought you mentioned**
24 **this idea of using the baffles at the June**

1 2019 meeting between the Agency and Emerald.

2 Did I misunderstand your
3 testimony?

4 A. I don't recall using that in
5 particular at that meeting.

6 Q. Okay. You don't think -- so you
7 don't recall mentioning the baffles as an
8 idea --

9 A. No. I -- I remember using the
10 other three systems just kind of a -- through
11 themselves, but I don't think I mentioned
12 baffling parts of it off.

13 Q. Okay. So at the June 2019 meeting,
14 you don't think you mentioned anything about
15 the baffles?

16 A. Correct.

17 Q. Okay. So the first time that you
18 mentioned this idea about the baffles in
19 front of anybody associated with Emerald
20 is at the testimony in Lacon, right?

21 A. Correct.

22 Q. Now, you know, again, in Lacon,
23 I understood you to say that -- that you
24 thought that ExxonMobil used the baffles

1 as part of its approach to nitrification,
2 right?

3 A. Yes, I did.

4 Q. But in your deposition when you
5 were asked how ExxonMobil plants treat
6 its wastewater, you didn't see anything
7 about baffles being part of the system,
8 did you?

9 A. No, I did not.

10 Q. At that time you said that what
11 they had was an equalization basin and lots
12 of aeration, right?

13 A. Yes.

14 Q. Is that because the you just forgot
15 did the baffles --

16 A. Yeah. I for- --

17 Q. -- when you were testifying?

18 A. I forgot about the specifics of
19 how one of their aeration basins worked,
20 yes.

21 Q. The baffles themselves don't
22 remove the ammonia, right?

23 A. Right.

24 Q. They -- they basically just

1 physically divide a tank into two separate
2 zones --

3 A. Yes.

4 Q. -- or two partially separate zones?

5 A. Right.

6 Q. So I want to dig into this baffle
7 system a little more.

8 A. Uh-huh.

9 Q. What material would you make the
10 baffle out of?

11 A. That depends on the -- you would
12 have to go through some engineering steps
13 to do that. I have not done that.

14 Q. Okay. Well, Mr. Liska, this is
15 your idea --

16 A. Right.

17 Q. -- that you presented to the Board?

18 A. Right.

19 Q. And that you've told the Board --
20 I don't know. Sometimes it seems like you're
21 just saying possibly it might work. Other
22 times you're saying -- other times, at least
23 what I'm hearing, is that you're saying that
24 you think it checks all the boxes. So I'm

1 not quite sure what your position is, but
2 you brought this idea to the Board?

3 A. Yes.

4 Q. But you can't tell us what material
5 the baffle would be made of, right?

6 A. Correct.

7 Q. How would the baffle be installed?

8 A. I don't have any information on how
9 it's particularly constructed.

10 Q. Okay. How many baffles would you
11 put in each tank?

12 MR. GRADELESS: I'm just going to
13 interpose a standing objection to the extent
14 that there's word shifting with respect to
15 these hypotheticals. The state -- the state
16 has no burden in this case whatsoever.

17 HEARING OFFICER WEBB: Well, the
18 standing objection is noted, but you can go
19 ahead and continue.

20 MR. DIMOND: Is the objection
21 overruled?

22 HEARING OFFICER WEBB: Yes.

23 MR. DIMOND: Thank you.

24 THE WITNESS: What was the question

1 again?

2 MR. DIMOND: I'm sorry. Even I
3 forgot what my question was.

4 Could you hopefully go back
5 to the last real question?

6 THE COURT REPORTER: Yes.

7 (Whereupon, the requested
8 portion of the record was
9 read accordingly.)

10 BY THE WITNESS:

11 A. You would have to do some engineering
12 work on that considering my first idea was
13 that it would just be one so you could have
14 secondary and tertiary.

15 There may be possibly a second
16 one for aer- -- an anoxic and aeration systems.

17 There's -- there's a lot of
18 optimization to go through. This is -- what
19 I gave was kind of a general thinking of how
20 it works, but again, there's a lot of
21 optimization based on flow and what you
22 have here, you have four tanks that are
23 all slightly different from each other.

24 There's -- a lot of

1 optimization would need to be done. A lot
2 of engineering work would still need to
3 be done.

4 BY MR. DIMOND:

5 Q. Is that the kind of engineering
6 work that you have ever done in your career?

7 A. No.

8 Q. So with your idea of the baffles,
9 would -- would the baffle completely seal
10 off water from -- so you sort of had
11 different -- you said it might be two, it
12 might be three.

13 A. Uh-huh.

14 Q. But let's -- let's go with -- you
15 said in Lacon you were really thinking about
16 just one baffle that -- to divide each tank
17 into, say, a Side A and a Side B.

18 A. Okay.

19 Q. That's what you were thinking about
20 in Lacon?

21 A. In general, yes.

22 Q. Okay. So in what you were thinking
23 about in Lacon and telling us about, would
24 the -- would the baffle have a watertight

1 seal on it so that water could not flow from
2 Side A to Side B?

3 A. It's possible. It would -- it
4 would have that, but probably have some kind
5 of -- something you could switch to allow
6 it if -- it would allow flexibil- -- that way
7 you could allow flexibility if tertiary --
8 if tertiary nitrification wasn't needed for
9 some reason. It -- it would be a system that
10 would allow for a lot more flexibility.

11 Q. So you're thinking of a -- a wall
12 inside the tank that has some sort of
13 watertight seal in this, but -- you know,
14 I'm just thinking in a lawyer's term so
15 that I can understand it --

16 A. Uh-huh.

17 Q. -- it would have some sort of gate
18 or passage that you could open and close, is
19 that what you're thinking?

20 A. Possibly, yes.

21 Q. Have you considered what might
22 happen if -- so if this baffle is sealed,
23 have you considered what might happen if
24 the water level on one side of the baffle

1 **was different than on the other?**

2 MR. GRADELESS: Objection. This
3 witness has no burden to design the petitioner's
4 treatment.

5 MR. DIMOND: This witness has
6 appeared before the Board saying that he
7 is an expert and throwing out alternatives.

8 The Agency has opened the
9 door on this and the Board is entitled to
10 know what this witness knows about these
11 baffle systems.

12 HEARING OFFICER WEBB: I don't --
13 I agree. I don't think it goes to burden of
14 proof.

15 BY MR. DIMOND:

16 Q. Have you considered what would
17 happen if you have a sealed baffle so that
18 water doesn't normally flow between the
19 two size of the tank --

20 A. Uh-huh.

21 Q. -- have you considered what would
22 happened if the water level was higher on
23 one side than it was on the other?

24 A. Well, it -- the -- it doesn't have

1 to be straight down the middle. If your
2 tertiary nitrification is less the baffle
3 could be not 50/50. You could -- it could
4 be at a different spot.

5 Q. So --

6 A. Again, you would -- you would
7 base this on -- you know, you would do your
8 engineering to figure out what the flows
9 are and you would put the baffle where it
10 says.

11 Q. Okay. So going back to my high
12 school geometry --

13 A. Uh-huh.

14 Q. -- you're describing a cord across
15 the circle that is not necessarily dividing
16 the circle into two equal halves, right?

17 A. Right.

18 Q. So in theory, you've just -- you've
19 just shifted -- I understood that the baffle
20 would be in the middle so we had two equal
21 halves?

22 A. Uh-huh.

23 Q. Was that what you were trying to
24 describe in Lacon?

1 A. In general. It doesn't -- again,
2 it doesn't have to be equal. It can --
3 it'll be whatever -- once you run the
4 calculations, it'll be whatever you come
5 up with.

6 Q. Okay. So -- just so that I can
7 ask about one thing, let's -- let's suppose
8 that the baffle is straight down the middle.
9 These are -- the -- the bioreactor tanks
10 at Emerald are circular tanks, right?

11 A. Yes.

12 Q. So let's -- let's assume that
13 the baffle that you want to put in and
14 seal --

15 A. Uh-huh.

16 Q. -- is right down the middle so
17 that one side is the same volume as the
18 other side?

19 A. Okay.

20 Q. Have you considered what would
21 happen to the baffle if the water level
22 on one side was higher than the water --
23 was significantly higher than the water
24 level on the other side?

1 A. These -- these kind of questions
2 and this kind of thing would be solved
3 through the -- the steps of engineering
4 and figuring it out. We -- we can -- we
5 have monitors that can monitor levels in
6 tanks.

7 **Q. So --**

8 A. That can be solved.

9 **Q. So, Mr. Liska, I think the answer**
10 **to my question is you have not evaluated**
11 **what would happen --**

12 A. I have not designed --

13 THE COURT REPORTER: Wait, wait.
14 You have to let him finish the question and
15 then you may answer.

16 BY MR. DIMOND:

17 **Q. So, Mr. -- Mr. Liska, if I**
18 **understand your answer, the real answer to**
19 **my question is you have not evaluated what**
20 **would happen if the water level on one side**
21 **of the tank was sig- -- on one side of the**
22 **baffle was significantly higher than the**
23 **other side of the baffle?**

24 A. I have not done any serious

1 engineering work to figure out exactly
2 where baffles or any piping or any
3 pumps or anything of that nature.

4 MR. DIMOND: Hearing Officer Webb,
5 could I ask that my question be read back and
6 that he answer the question that I've asked?

7 He -- he went off in a
8 different area. I asked him if he had done
9 any evaluation of what would happen if the
10 water level was significantly different on
11 either side of the baffle and I want an
12 answer to that question.

13 BY THE WITNESS:

14 A. I have not.

15 BY MR. DIMOND:

16 Q. Okay. Good. You have not.

17 Is it harder to install
18 a -- A baffle in a circular tank as opposed
19 to a square tank?

20 A. I -- I don't know.

21 Q. Okay. Have you ever designed or
22 constructed a baffle system in a wastewater
23 treatment tank?

24 A. Nope.

1 Q. You have not evaluated what
2 the cost would be of providing tertiary
3 nitrification through the installing of
4 a baffle system as you've described it,
5 right?

6 A. We've been given that in
7 anti-degradation assessments for other
8 systems that use it.

9 Q. Have you evaluated what the cost
10 would be of providing tertiary nitrification
11 by putting baffles in the tanks at the
12 Emerald plant?

13 A. I have not.

14 Q. So you don't have any basis to
15 compare the cost of your hypothetical baffle
16 tertiary nitrification system to the cost
17 that Mr. Flippin has projected for the
18 rotating biological contactors, do you?

19 A. No, I haven't.

20 Q. So -- so in Lacon, on -- it's
21 on the transcript on Page 161 at Lines 17
22 through 21, you told us that "It is believed
23 that they" -- meaning Exxon -- well, let
24 me -- let me just start over.

1 So 161, Line 17, Mr. Gradeless
2 asked you, "Now, are you -- are you aware of
3 whether or not ExxonMobil had nitrification
4 inhibitors?"

5 And you answered, "It is
6 believed that they do have at times
7 nitrification inhibitors."

8 And then later on at Page
9 162, Mr. Gradeless pressed you a little
10 further and you said that ExxonMobil
11 did have other nitrification inhibitors.

12 But at your deposition,
13 you told us that you didn't know if the
14 ExxonMobil plant has nitrification inhibitors,
15 right?

16 A. Right.

17 Q. So why did your testimony change
18 between December 16th and January 15th?

19 A. I did some more research on it.
20 I wasn't --

21 Q. What did you do in research?

22 A. I went through R-9728.

23 Q. And by R-9728, you mean the Board
24 site-specific rulemaking for ExxonMobil?

1 A. Yes.

2 Q. Did you read anything other than a
3 Board final opinion?

4 A. Yes.

5 Q. What else did you read?

6 A. I read some of the depositions.

7 Q. Do you remember whose depositions
8 you read?

9 A. I can't remember the name.

10 Q. Did you read depositions or did
11 you read a hearing transcript testimony?

12 A. That may have been it.

13 Q. So you think it was really a
14 hearing transcript rather than a deposition?

15 A. I can't recall which one it was.

16 Q. But at any event, ExxonMobil does
17 not have MBT in its wastewater, right?

18 A. It does not have MBT in its
19 wastewater.

20 Q. What is the nitrification and
21 inhibition potential in MBT versus any of
22 the inhibitors that might be present in
23 the ExxonMobil wastewater?

24 A. Well, it either inhibits the

1 nitrification or it doesn't. In -- in the
2 case of ExxonMobil, through other research,
3 we found out that they did have chemicals
4 that inhibits in nitrification.

5 **Q. So you think that all nitrification**
6 **inhibitors are -- inhibits nitrification**
7 **equally?**

8 A. They don't inhibit it equally. It
9 will depend on, you know, concentration and
10 everything. But as far as the inhibition
11 itself, usually. You know, you've got your
12 bugs that are turning your ammonium into
13 nitrogen and it's usually an on or off thing
14 where once it reaches that -- once whatever
15 the inhibitor is that reaches that threshold,
16 it usually kills just about all the bugs.

17 But it can -- can be definitely
18 at different concentrations depending on what
19 chemical.

20 **Q. So now, in -- in Lacon, you said**
21 **that -- you also talked about the Citgo oil**
22 **refinery.**

23 **Do you remember that?**

24 A. Yeah. I think I mentioned it.

1 **Q. And you said that they achieved**
2 **compliance with the ammonia standard in a**
3 **very similar way to ExxonMobil, right?**

4 A. Yes.

5 **Q. Now, in your deposition, you told**
6 **us that you did not have any knowledge about**
7 **the Citgo plant or its adjusted standard**
8 **petition, right?**

9 A. Right.

10 **Q. So what changed between your deposition**
11 **and your testimony in Lacon?**

12 A. I did more research on Citgo.

13 **Q. What did you research?**

14 A. I researched what they had put
15 in and found out they put in sub- -- a
16 substantially similar system. It was
17 even done by the same engineering firm.

18 **Q. How did -- what did you look at**
19 **that provided you that information?**

20 A. I believe it was their -- whatever
21 their last adjusted standard was. I also
22 talked with Darin LeCrone about it because
23 he had permitted the -- done their permitting
24 for quite a few years as well.

1 Q. If the effluent limit in Section
2 304.122(b) had not been adopted, the Henry
3 plant would be allowed to meet a water
4 quality-based effluent, right? I botched that.
5 Let me -- let me start over.

6 A. Uh-huh.

7 Q. If the effluent limit in 304.122(b)
8 had not been adopted, the Henry plant would
9 be allowed to meet a water quality-based
10 effluent limit, right?

11 A. Possibly. They have to meet best
12 degree of treatment.

13 Q. When you were asked that question
14 in your deposition, did you give a different
15 answer?

16 A. I can't remember what my answer
17 was.

18 Q. In your deposition, did Ms. Weyhing
19 ask you and did you respond as follows: "If
20 the effluent limitation in 304.122(b) had not
21 been adopted, would the Henry plant be subject
22 to a water quality-based effluent for ammonia?"

23 "Answer: Yes."

24 Is that the question that

1 you were asked and the answer that you gave?

2 A. Yes.

3 Q. The Henry plant is subject to the
4 U.S. EPA treatment standards for the organic
5 chemical plastic and synthetic fibers industry
6 category, right?

7 A. Correct.

8 Q. And you are familiar with that --
9 those categorical treatment standards for
10 the OCPSF industry?

11 A. Yes.

12 Q. But you still cannot say whether
13 or not the Henry plant meets or exceeds
14 the OCPSF treatment standards, right?

15 You need me to repeat the
16 question?

17 A. Go ahead.

18 Q. You still cannot say whether or
19 not the Henry plant meets or exceeds
20 the OCPSF treatment standards, right?

21 A. Correct.

22 Q. Now, in Lacon, you did not agree
23 with evaluating projects based on comparisons
24 of cost per pound, do you remember that

1 testimony that you gave?

2 A. Yes.

3 Q. Instead, you said "When we're
4 talking about affordability and whether
5 something is both technically feasible
6 and economically reasonable, the economically
7 reasonable part, we should be talking about
8 total costs and not cost per pound."

9 That's what you said, right?

10 A. Yes.

11 Q. And you used an example of what if
12 a pollutant could be reduced by one pound each
13 day for \$50, right?

14 A. Right.

15 Q. Now, this idea and, you know, the
16 example you've got don't seem to involve any
17 engineering principals or judgment. I'm just
18 sort of wondering how you came up with it.

19 A. Well, it was just an example of
20 how -- how using just cost per pound cannot
21 always be reliable.

22 Q. Did you come up with this example
23 all by yourself?

24 A. I did.

1 **Q. Did you discuss it in the work**
2 **group within the Agency?**

3 A. No, not before we -- not for
4 the -- the filings that we did.

5 **Q. So you didn't talk about it in**
6 **the work group before the Agency filed**
7 **its recommendation in July of 2019?**

8 A. Correct.

9 **Q. Did you discuss it in the work**
10 **group after that?**

11 A. I think we discussed it over
12 lunch when -- on -- in Lacon one day
13 after we had heard testimony regarding
14 cost per pound.

15 **Q. So after you heard Mr. Flippin's**
16 **testimony on the first day in Lacon, that's**
17 **when you discussed it?**

18 A. Right. He had kind of zeroed in
19 on cost per pound and we were trying to
20 figure out a way of figuring why that wouldn't
21 be the case -- why that wouldn't be the case
22 all the time.

23 **Q. Okay. So is the first time you**
24 **came up with this idea of \$50 for -- for**

1 **a pound of removal at the -- at the coffee**
2 **shop in Lacon over lunch?**

3 MR. GRADELESS: It wasn't a coffee
4 shop. It was Pizza Peel.

5 BY THE WITNESS:

6 A. I'm going to go with him on that.

7 BY MR. DIMOND:

8 **Q. And so it was at the Pizza Peel?**

9 A. Yes. We definitely need that in the
10 record.

11 MR. GRADELESS: Good spot.

12 BY MR. DIMOND:

13 **Q. Okay. What -- was the pizza good?**

14 HEARING OFFICER WEBB: You are
15 under oath.

16 THE WITNESS: I did not have the
17 pizza.

18 MR. GRADELESS: Oh, got him.

19 BY MR. DIMOND:

20 **Q. So, you know -- now, so this -- in**
21 **627(a) of the Act where it lists factors that**
22 **the Board is to take into account in setting**
23 **rules and also in addressing adjusted**
24 **standards --**

1 A. Uh-huh.

2 Q. -- does the Act use the word
3 **affordability?**

4 A. I don't have it in front of me.
5 I'm sure it does.

6 MR. GRADELESS: I want to
7 interpose an objection to --

8 THE COURT REPORTER: Keep you voice
9 up, please, sir.

10 MR. GRADELESS: I'm sorry. I
11 just want to interpose an objection here
12 to what the Act may say and whether or
13 not -- you know, it's a legal determination
14 about -- in this case about economical
15 reasonableness and that's a legal conclusion.

16 So just to the extent
17 that, you know, Mr. Liska is offering
18 a legal opinion on that analysis, we would
19 object.

20 MR. DIMOND: They put Mr. Liska
21 on to testify about this. I think we are --

22 HEARING OFFICER WEBB: I don't
23 think the question was about analysis of
24 economic reasonability.

1 BY MR. DIMOND:

2 Q. So, Mr. Liska, I have handed you a
3 printout -- it's on both sides -- of Section
4 27(a) -- well, of Section 27 of the Act
5 from the Illinois General Assembly's website
6 of the official statutes of the state
7 of Illinois.

8 Can you point me in 27(a)
9 where the word affordability is used or any
10 version of the word affordability is used?

11 (Document tendered
12 to the witness.)

13 BY THE WITNESS:

14 A. This might take a minute.
15 (Witness perusing
16 a document.)

17 BY THE WITNESS:

18 A. Do you want to point me to
19 anything in particular to kind of get
20 things going?

21 BY MR. DIMOND:

22 Q. Well, Mr. Liska, I can tell you
23 that I know for a fact the word affordability
24 or any version of the word affordability is

1 not used in Section 27(a).

2 A. Economic impact doesn't count?

3 Q. I'm just -- look, I'm just asking
4 you if the word affordability was used by
5 the General Assembly. I don't think it's
6 there, but if you can find it for me that's
7 fine.

8 MR. GRADELESS: Why are we
9 speaking to the witness like that?

10 MR. DIMOND: Because this witness
11 gave testimony about how he thought the
12 affordability was an issue.

13 BY THE WITNESS:

14 A. Economic impact is used a bunch of
15 times over here.

16 BY MR. DIMOND:

17 Q. Is the word affordability used?

18 A. I think economic impact is pretty
19 close to affordability.

20 Q. So is that your legal interpretation?

21 A. I can't give a legal interpretation.

22 Q. Well, you -- you gave us some testimony
23 about this in Lacon.

24 What kind of testimony was it?

1 A. Regarding?

2 Q. Regarding your one -- regarding
3 saying we shouldn't consider cost per pound.
4 That was your testimony.

5 A. Uh-huh.

6 Q. So I'm trying to understand what
7 the basis for it was. You said we should
8 consider affordability.

9 What was your basis for
10 that?

11 A. It was based on -- the example
12 was -- I'll admit it was a little bit extreme
13 because it -- it made for something that only
14 cost \$50 that -- that cost -- that could
15 possibly be rejected, but what it -- what I
16 was trying to get at at that time was that
17 you -- it cannot be solely based on cost
18 per pound because again, if something were
19 very low cost, but it was getting a very
20 low amount of a certain chemical, which
21 often happens in chemical and the OPCF
22 industry, you wouldn't use that just -- you
23 wouldn't use it based on just cost per pound.

24 The cost per pound is usually

1 based on large discharges. Most of the time
2 when you're talking about nitrogen, it's
3 getting nitrogen out -- or ammonia -- out of
4 municipal plants, which have very large
5 discharges, your less than one-million-gallon
6 per day is far less than most decent sized
7 municipalities.

8 What I was getting at is
9 that you -- you can't just use it by one.
10 You have to use common sense and base is
11 it on several factors.

12 **Q. Okay. So you say we have to use**
13 **common sense.**

14 A. Uh-huh.

15 **Q. Do you think it's common sense**
16 **to -- for the Board to judge economic**
17 **reasonableness based on an example that**
18 **you just admitted was an extreme one?**

19 A. That was just to prove the
20 example.

21 **Q. But you've admitted that your**
22 **example is an extreme one, right?**

23 A. Yes.

24 **Q. Okay. Do you think it makes common**

1 **sense for the Board to use an extreme example**
2 **to judge economic reasonableness in this case?**

3 A. I think it made the point.

4 **Q. What point?**

5 A. That you don't -- you shouldn't
6 just use it -- do it based on cost per pound.

7 **Q. Well, you may think it made the**
8 **point.**

9 **Are you aware of any Board**
10 **proceeding where --**

11 MR. GRADELESS: I'm just going
12 to object. We're getting a little
13 argumentative at this point with this
14 witness.

15 HEARING OFFICER WEBB: We are
16 getting a little argumentative. I mean, I --
17 I'm not -- you're being a little more detailed
18 than I --

19 BY MR. DIMOND:

20 **Q. Are you aware of any Board proceeding**
21 **for an -- for an adjusted standard or a**
22 **site-specific rule where a reduction in the**
23 **pollutant was only one pound per day?**

24 A. No.

1 Q. So if you wouldn't use cost per
2 pound, what would you use?

3 Would you use cost per day?

4 A. Possibly.

5 Q. Would you use just absolute cost in
6 dollars?

7 A. Yes. That's possible too.

8 Q. But you don't know which one you would
9 use?

10 A. I would base it on common sense.

11 Q. So if you're only going to consider
12 the absolute cost, do you only consider the
13 capital cost?

14 A. No.

15 Q. You would consider operating costs
16 too?

17 A. Of course.

18 Q. So suppose you had two control
19 alternatives, one, the capital and operating
20 costs totaled up to \$5 million and the other
21 one, they totaled up to a million dollars, which
22 one would you choose?

23 A. \$5 million per year or one per
24 year? What -- what are you -- what are you

1 basing it over how many years? What -- what
2 was the difference between capital and
3 operating.

4 Q. Well --

5 A. None of that was in your example.

6 Q. You're right. Nothing was because
7 you told me that you would just consider
8 absolute cost. So I gave you two absolute
9 costs.

10 How would you evaluate
11 that?

12 Would you have to consider
13 all of those other factors that you mentioned?

14 A. Yes.

15 Q. Would you -- would you want to
16 consider how many pounds of pollution
17 reduction you were getting for the \$5 million
18 versus the \$1 million?

19 A. Possibly, yes.

20 Q. So in Mr. Flippin's testimony,
21 he calculated a cost per pound and then
22 you found a reference document that provided
23 him other data on the cost per pound that
24 other facilities have incurred to control

1 ammonia.

2 Are you aware of any source
3 of information that reports either absolute
4 costs or costs per day for controlling
5 ammonia?

6 A. I don't know any sources for those
7 that data, no.

8 Q. Have you calculated what the
9 estimated cost per day would be to implement
10 the lowest cost ammonia control alternative
11 that was evaluated by Mr. Flippin?

12 A. No, I haven't.

13 Q. Would it surprise you if I told
14 you that it was about \$3,950 per day?

15 A. It would not surprise me.

16 Q. Would it surprise you if I told
17 you that the cost per day for the highest
18 cost alternative was over \$8,000 per day?

19 A. That would not surprise me
20 either.

21 Q. So your \$50 a day example for one
22 pound of removal really doesn't have any
23 relationship to the realities of this case,
24 does it?

1 A. It had a -- the reality is making
2 the point of total cost versus cost per
3 pound. It -- it was not supposed to have
4 that affect.

5 Q. So when Mr. Flippin calculated his
6 cost per pound of ammonia removed, he was
7 not estimating a removal of one pound per day,
8 was he?

9 A. No.

10 Q. Do you remember how much he was
11 estimating in terms of removal a day without
12 referencing to a document, do you remember?

13 A. Somewhere in the 500 to 1,000
14 pounds per day. That's based on what's
15 in their permit as far as loading.

16 Q. Would it surprise you if I told
17 you that if you went to Petitioner's Hearing
18 Exhibit 12 at Page 11, Table 2, that the
19 range is 77 to 331 pounds per day?

20 A. Okay.

21 Q. You don't have any reason to dispute
22 my accuracy on that?

23 A. No. It's not too far from what I
24 said.

1 Q. And at 331 pounds a day, that's about
2 121,000 pounds a year, right?

3 A. Okay.

4 Q. That's a long way from -- a pound a
5 day, is 365 pounds a year, right?

6 A. Right.

7 Would you like me to give an
8 example with bigger numbers?

9 Q. And if Mr. Flippin used roughly
10 121,000 pounds a year to estimate his cost
11 per pound of ammonia, then his cost per
12 pound of ammonia were -- actually ended up
13 being on the low side, didn't they?

14 A. Low side of what?

15 Q. Well, if you look at the last
16 five years, Emerald's data shows that
17 its average load in pounds per day has
18 only exceeded 331 one time, right?

19 A. Okay. Right.

20 Q. Mr. Liska, I'm not the one
21 testifying, you are.

22 A. Right.

23 Q. You're going to have to tell me
24 whether or not what I'm telling you is

1 right.

2 A. Right.

3 Q. If you don't know, you don't know.

4 That's fine.

5 A. Yes.

6 Q. So you think I'm right on this?

7 A. Yes.

8 Q. Okay. In 2019, the average pounds
9 per day was about 193.5 pounds per day,
10 right?

11 A. Okay. Yes.

12 Q. So if Mr. Flippin had used 193.5
13 pounds per day, he would've come up with a
14 higher cost per pound of ammonia removed,
15 right?

16 A. Yes.

17 MR. DIMOND: Hearing Officer Webb,
18 can we go offer the record?

19 HEARING OFFICER WEBB: Yes. Off
20 the record.

21 (Whereupon, a discussion
22 was had off the record.)

23

24

1 (Whereupon, after a short
2 break was had, the following
3 proceedings were held
4 accordingly.)

5 HEARING OFFICER WEBB: All right.
6 We will go back on the record.

7 We are continuing with the
8 cross-examination of Mr. Liska.

9 MR. DIMOND: Thank you, Hearing
10 Officer Webb.

11 BY MR. DIMOND:

12 Q. Mr. Liska, in Lacon, you testified
13 in support of the Agency's recommended
14 condition 3(r), which is the Agency would
15 like the adjusted -- well, excuse me.

16 The Agency wants the adjusted
17 standard denied, but if the Board decides
18 to grant it, the Agency would like a
19 condition that says that Petitioner must
20 operate in full compliance with the Clean
21 Water Act, it's NPDES permit, the Board's
22 water pollution control regulations and
23 any other applicable requirements.

24 Do you remember that

1 testimony?

2 A. Yes.

3 Q. Now, in Lacon, you told us that
4 condition 3(r) was not duplicative, right?

5 A. Correct.

6 Q. And the reason you gave was that
7 the Agency had included special condition
8 15(a) in Emerald's most recent NPDES permit
9 and you thought those should be in effect
10 incorporated into the adjusted standard,
11 right?

12 A. Well, not incorporated. Well,
13 it should be considered by the Board, yes.

14 Q. What do you mean by "it should
15 be considered by the Board"?

16 A. It -- it gave more technical
17 information, which could be then used at
18 the next -- for the next adjusted standard.

19 Q. Okay. Well, you would agree with
20 me that any condition in an NPDES permit is
21 enforceable in its own right whether it's
22 incorporated into an adjusted standard or
23 not, right?

24 A. Yes.

1 Q. So having the -- having the condition
2 in the NPDES permit effectively incorporated
3 into the adjusted standard doesn't make that
4 condition any more or less enforceable, right?

5 A. As far as us enforcing it, no.

6 Q. Now, you also said that 3(r) was --
7 of the Agency's relations was important
8 because for Emerald's next permit, "Any Special
9 Agent condition that I put in this permit,
10 and kind of a spoiler alert something,
11 similar to this will be in it would then
12 become part of the adjusted standard," right?

13 A. Yes.

14 Q. What did you mean by the spoiler alert
15 language?

16 A. Well, I probably didn't say that
17 right because I know it doesn't physically
18 go into the adjusted standard, but what I
19 meant was that any special condition that
20 we would put in could be -- could have more
21 specifics that would be helpful to the
22 Board or anyone for the next adjustment
23 standard.

24 I didn't mean that it

1 would physically go straight to the
2 adjustment standard.

3 Q. Okay. So Mr. Twait -- there were
4 some other Agency recommendations that
5 requested that Emerald provide a whole slue
6 of financial information to the Agency.

7 A. Uh-huh.

8 Q. Is -- is what you're -- is what
9 you were trying to refer to just again
10 trying to gather more information for the
11 Board for the next adjusted standard
12 petition if there is one?

13 A. In that case, it was more than
14 that. We needed information that would
15 give us more specifics so that we could
16 make -- so that we could see whether or
17 not -- it gave more information regarding
18 the treatment system and how it was working
19 because we didn't quite have all the
20 information we thought we needed.

21 Q. So shouldn't it really be up to
22 the Board what information they think they
23 need in either this adjusted standard
24 petition matter or some later one?

1 A. Well, we're just trying to gather
2 the most information we can to give the
3 best, you know -- so we can make the best
4 permit next time and possibly get the most
5 information for the next Board --

6 **Q. Okay. Well --**

7 A. -- adjustment standard.

8 **Q. Okay. Well, what you said in**
9 **Lacon was "and kind of a spoiler alert" --**

10 A. Uh-huh.

11 **Q. "And kind of a spoiler alert,**
12 **something similar to this will be in it."**

13 **When you referred to**
14 **the something similar to this, what did**
15 **you mean by that?**

16 A. Something similar to Special
17 Condition 15.

18 **Q. Okay. Did you have any specific**
19 **in mind?**

20 A. At the time, no. The permit is
21 not up for renewal right now.

22 **Q. Well, I understand the permit is**
23 **not up for renewal, but you testified to**
24 **the Board that something similar would be**

1 in it.

2 What was the something
3 similar that you had in your mind?

4 A. Info- -- information gathering
5 about the performance of the system of --
6 of their treatment system and of -- similar
7 to what's in Special Condition 15 now where
8 we -- we may ask for more questions regarding
9 how they're -- the process side and the
10 treatment side.

11 Q. So let me ask you this: If --
12 if the Board decides to granted adjusted
13 standard --

14 A. Uh-huh.

15 Q. -- and decides that one or more
16 of the Agency recommended conditions are
17 not justified --

18 A. Uh-huh.

19 Q. -- and doesn't include them in
20 the adjusted standard, are you just going
21 to impose them as conditions in the permit
22 anyway?

23 A. I -- I don't know how we're going
24 to do the permit when it comes up. We --

1 that's -- I can't speculate how they're
2 going to do it and how we're going to react
3 to it.

4 Q. Okay. The Agency recommended
5 condition 3(d) asks Petitioner to investigate
6 and quantify amounts of ammonia in MBT that
7 come into the PVC tank, the C18 tank and
8 the PC tank and then it continues on and
9 says, "the Petitioner must provide methods
10 to minimize these parameters from each of
11 these places within one year."

12 So my question about this
13 was did you realize that Emerald produced
14 data regarding those matters to the Agency
15 during this proceeding?

16 A. As far as I know, we didn't have
17 data that split all three of them specifically
18 prior to making that recommendation.

19 (Document marked as Petitioner's
20 Hearing Exhibit No. 21 for
21 identification, 02/03/2020.)

22 BY MR. DIMOND:

23 Q. Mr. Liska, I'm handing you what I
24 marked as Petitioner's Hearing Exhibit 21.

1 This was among a number of documents that
2 we produced to the Agency in this proceeding.

3 Have -- have you seen this
4 email and attachment before?

5 (Document tendered
6 to the witness.)

7 BY THE WITNESS:

8 A. I can't remember having seen this.

9 BY MR. DIMOND:

10 Q. Okay. So if you flip back from the
11 email past the graphs --

12 A. Uh-huh.

13 Q. -- there's a table that begins on
14 the page that's Bates labeled EP3255.

15 A. Uh-huh.

16 Q. And this has columns on it with
17 data for the PC tank and the PVC tank and
18 the C-18 tank and a number of other different
19 tanks, right?

20 A. Uh-huh.

21 Q. So nobody alerted you that this
22 information had been provided?

23 A. Is this ammonia?

24 Q. Well, I think in different --

1 A. It's not --

2 Q. -- in different columns, there's
3 different parameters.

4 A. Oh, there we go. Okay.

5 Q. Some of them have TKN some of them
6 have ammonia.

7 A. Okay. There it is.

8 Q. So if -- if you look from EP3255
9 to EP3258, that's got data from March 28th
10 through April 27th of 2019.

11 A. Okay.

12 Q. And then if you begin at EP3259,
13 I think the -- the column starts to repeat,
14 but then the dates run from --

15 A. Uh-huh.

16 Q. -- April 28th through May 26th and
17 the next set. So nobody had alerted you that
18 this data had been provided by Emerald, I take
19 it, right?

20 A. No. I -- I don't remember going
21 through this.

22 Q. So if the Agency got this data that --
23 you know, has this data now that's been provided
24 in Petitioner's Hearing Exhibit 21, what

1 **would the Agency do with that data?**

2 A. That data would be good for helping
3 and making a mass balance to see how -- how
4 much of the ammonia was coming from each of
5 the PC tanks, C-18 tank and PVC tank and it
6 might affect further decisions.

7 **Q. Well, didn't -- didn't Mr. Flippin**
8 **already analyze that in his expert report of**
9 **October 2019?**

10 A. He analyzed a lot of things.

11 What specifically?

12 **Q. Didn't he analyze how much ammonia**
13 **was coming from the PVC tank and how much**
14 **ammonia was coming from the PC tank?**

15 A. He may have.

16 **Q. I take it you don't remember one way**
17 **or the other?**

18 A. I don't remember.

19 **Q. Okay. Now, when you said it might**
20 **help in doing a mass balance, were you**
21 **thinking that it would help Emerald do a mass**
22 **balance?**

23 A. It would probably be helpful to both
24 of us, the Illinois EPA and Emerald.

1 Q. So do you have any experience
2 analyzing this kind of data and how it
3 could be used to improve the processes
4 of the wastewater treatment plant?

5 A. Yes.

6 Q. What is that experience?

7 A. Well, we have to do mass balances
8 and make these calculations when we write
9 permits.

10 Q. Okay. How does -- how does using
11 that in writing a permit help you analyze
12 how that would -- could be used to improve
13 the operations of either the wastewater
14 treatment plant or something else within
15 the Henry plant?

16 A. Well, it could help with sizing,
17 seeing if there's enough volume to nitrify.

18 Q. Hasn't Mr. Flippin already analyzed
19 that in all of the different alternatives
20 he's evaluated?

21 A. Yes.

22 Q. One of the other recommendations
23 that you testified about was 3(c), which
24 the Agency said "Within 90 days of the Board's

1 order, given the effluent from Petitioner's
2 secondary clarifiers, contained essentially
3 no MBT and can be nitrified. Petitioner
4 must investigate and provide to the Agency
5 how much treatment capacity it needs prior
6 to involving the secondary clarifier to
7 complete nitrification.

8 Further, Petitioner must
9 reconfigure its current treatment system,"
10 blah, blah, blah, blah, blah "and bioreactor
11 tanks to treat these effluent after the
12 secondary clarifier to achieve nitrification."

13 So with regard to this
14 recommendation, you know, the first sentence
15 is about investigating and providing the
16 Agency how much treatment capacity is needed.
17 So I want to focus on that part first.

18 A. Okay.

19 Q. Didn't Mr. Flippin have to estimate
20 the treatment capacity to come up with his
21 cost estimates for tertiary nitrification?

22 A. Yes.

23 Q. And, in fact, isn't that -- if
24 you -- if you look at Petitioner's Hearing

1 Exhibit 12 on Page 6, Table 1, isn't most
2 of the information you would need to do that
3 on Page 6, Table 1?

4 A. Yes, it looks like it. Yep.

5 Q. Now, in Lacon, when you were
6 testifying -- I think when you were testifying
7 about this condition, you said something along
8 the lines of -- that you would like to see if
9 Emerald has -- and I think the phase you used
10 was extra spare tankage that they could use.

11 So my question is if Emerald
12 has a 500 or a 5,000-gallon tank that is
13 presently not in use, do you want to know
14 about that?

15 A. Yes.

16 Q. Why?

17 A. It's possible that it could be
18 used in either modification for treatments
19 or possibly storage for later treatments
20 and knowing that it would be possible to --
21 if -- if you already have that capital
22 equipment there, that could possibly lower
23 the final costs of any treatment -- wastewater
24 treatment modifications.

1 **Q. Mr. Liska, what's the size of the**
2 **tanks -- most of the tanks that are used in**
3 **the wastewater treatment system?**

4 A. The one they're using now --

5 **Q. Well, hold on, hold on. Before you**
6 **refer to an exhibit --**

7 A. This doesn't --

8 **Q. -- do you know of any --**

9 A. -- have any --

10 THE COURT REPORTER: One at a
11 time.

12 BY MR. DIMOND:

13 **Q. Do you know without --**

14 A. Yes. I was just saying that the
15 first --

16 **Q. -- looking at -- an exhibit?**

17 A. -- one --

18 THE COURT REPORTER: One at a
19 time, sir.

20 THE WITNESS: Okay.

21 BY MR. DIMOND:

22 **Q. Do you know without looking at an**
23 **exhibit?**

24 A. Yes.

1 Q. Okay. So what is the sizing --
2 without looking at any exhibits, what
3 do you think the sizing is of the tanks
4 in the wastewater system?

5 A. Well --

6 Q. Mr. Liska, please don't look at
7 Agency Exhibit 4. If I want you to look
8 at it, I will let you know.

9 A. The first one is one -- roughly
10 1.2 million gallons. The other three are
11 all in the 250,000 to 300,000-gallon range.

12 Q. Okay. Now, there, you're talking
13 about the bioreactors?

14 A. Yes. That's what I was referring
15 to.

16 Q. What's the size of the PC tank?

17 A. I don't know.

18 Q. Okay. Do you know what the size
19 of the PVC tank is?

20 A. Those three tanks are part of
21 the treatment system that were -- that
22 involve the data that we were asking for.
23 I don't know those three offhand.

24 Q. Okay. So when -- when you were

1 asking for this extra spare tankage were you
2 really asking about tankage that was on the
3 scale of the bioreactors?

4 A. No. It --

5 Q. Well, I'm -- I'm confused because
6 I -- I started to -- you know, I asked you
7 about a 500 or 5,000-gallon tank --

8 A. Uh-huh.

9 Q. -- and you said yes, I would like
10 to know about it. Then when you started
11 talking about sizing, you started talking
12 about the bioreactors, which are enormous.

13 A. Right.

14 Q. So I couldn't quite figure out
15 why you would need to know about a 500-gallon
16 or a 5,000-gallon tank, but then you switched
17 and started talking about the bioreactors.

18 A. Okay. Well, it could be that
19 you -- they -- they run lots of different
20 processes. They have at least ten different
21 products.

22 It may be optimal for them
23 to store some of the wastewater in just a
24 smaller tank because they're just doing a

1 run or two of one thing. And then they can
2 bleed in that -- that much smaller amounts
3 that they just did from one thing into the
4 larger system.

5 We've -- I've run -- not
6 run -- I've permitted and seen lots of
7 systems where they have smaller tanks that
8 will hold a small amount of wastewater
9 because that -- that one small amount of
10 wastewater is far more toxic than the
11 rest.

12 That way, when they can
13 either treat -- sometimes they'll pre-treat
14 that prior to bleeding in or they can just
15 bleed in the rest of that specific waste into
16 the rest of the system so that a big slug
17 of it at once doesn't upset the treatment
18 system.

19 **Q. In fact, isn't that what Emerald**
20 **does with the C-18 tank?**

21 **A. In a way, yeah.**

22 **Q. Okay. But this -- this all seems**
23 **very hypothetical. You don't have any idea**
24 **that any tank that's only 5,000 gallons**

1 is going to be able to hold enough
2 wastewater to be of any use, do you?

3 A. That's why we're asking.

4 Q. And as to the second part of
5 this, the second part of it demands that
6 Emerald reconfigure its wastewater system
7 to achieve tertiary nitrification apparently
8 with one of your two tertiary nitrification
9 ideas is that what this second sentence of 3(c)
10 is about?

11 A. Could -- could you show -- was
12 it in one of these I just want to read it
13 specifically.

14 Q. Well, I don't think it's been marked
15 as an exhibit. So I'm going to have to give you
16 my copy of it.

17 A. Okay.

18 Q. But that's okay. We may have to
19 share this.

20 (Document tendered
21 to the witness.)

22 BY THE WITNESS:

23 A. 3(c)?
24

1 BY MR. DIMOND:

2 Q. 3(c). The second sentence of it.

3 A. Okay.

4 Q. So here's what I'm curious about.

5 If -- if the Board decides to grant an adjusted
6 standard, why should a condition be put on
7 that basically requires the adoption of one
8 of your tertiary treatment -- tertiary
9 nitrification alternatives for which the
10 Board has received no evidence about what
11 it's going to cost or no evidence about
12 whether or not it can actually be built
13 or be effective?

14 A. We wouldn't expect Emerald to
15 do that without a lot of engineering work
16 and everything. This probably is an error
17 in 3(c). We know you couldn't possibly
18 do that in three months and -- and -- you
19 know, do the engineering work and construction
20 in three months. That's probably an error
21 in that.

22 Q. Okay. But even beyond not doing
23 the engineering in 90 days or three months,
24 as you've put it, if the Board doesn't have

1 any data on how much that treatment alternative
2 is going to cost, if it doesn't have any data
3 showing whether or not it could work or not --

4 A. Uh-huh.

5 Q. -- are you saying that you think it's
6 incorrect that that there should be a condition
7 that actually requires Emerald to reconfigure
8 its current treatment system to achieve tertiary
9 nitrification on one of your proposals?

10 A. No, just in the 90 -- just to do in
11 the 90 days.

12 Q. So you -- you do think that the
13 Board should require Emerald to do it,
14 it'll just take more than 90 days?

15 A. We would want to see some kind
16 of plan or proof that it would work.

17 Q. So -- so what you're looking
18 for is not a condition that requires the
19 implementation of it, but a condition
20 that requires the evaluation of it?

21 A. Yes.

22 Q. Well, that doesn't seem to be
23 what the condition says. I'll -- I'll
24 show it to you again.

1 A. That's why I say it was probably
2 an error.

3 **Q. You know, the condition --**

4 A. Yeah. I was surprised --

5 THE COURT REPORTER: One at a time.

6 BY MR. DIMOND:

7 **Q. The condition -- condition says the**
8 **Petitioner must reconfigure. It doesn't say**
9 **Petitioner must evaluate.**

10 A. Yeah. That's why I asked to see
11 it myself. We realize that they couldn't
12 possibly do all of that in three months.

13 **Q. Okay. I understand that it can't**
14 **be done in three months, but do you -- do**
15 **you think that it's -- don't you think it**
16 **would be premature for the Board to order**
17 **the reconfiguration on any timeframe if**
18 **the costs have not been analyzed and there's**
19 **been no showing that it can actually be**
20 **implemented?**

21 A. We would want to see that as well.

22 **Q. You would want to see the evaluation?**

23 A. Yes.

24 **Q. But wouldn't it be premature for the**

1 Board to order the reconfiguration until the
2 evaluation is done?

3 A. That would be up to the Board.

4 Q. Well, that's the answer to every
5 question.

6 MR. DIMOND: Okay. Give me just a
7 second, Hearing Officer Webb.

8 (Brief pause.)

9 BY MR. DIMOND:

10 Q. Okay. Here's a copy of the
11 recommendation that we can leave for the
12 witness and I won't have to risk upsetting
13 the tape recorder time after time.

14 So I think you want to
15 turn to about Page 27 or 28 of the
16 recommendation. I want to ask you some
17 questions about the Recommendation 3(g).

18 Have you got there?

19 (Document tendered
20 to the witness.)

21 BY THE WITNESS:

22 A. Yes.

23 BY MR. DIMOND:

24 Q. So Recommendation 3(g) is about

1 spray irrigation.

2 A. Uh-huh.

3 Q. The Agency has asked -- recommendation
4 to ask Emerald to evaluate when it could spray
5 irrigate.

6 A. Uh-huh.

7 Q. Now, Mr. -- didn't Mr. Flippin
8 already analyze that and state spray
9 irrigation could occur over nine months
10 during a year?

11 A. Yes, he did.

12 Q. So that's already taken care of,
13 right?

14 A. Yes.

15 Q. And the Agency's recommendation
16 asked Emerald to evaluate the suitability
17 of its effluent on vegetation.

18 So Mr. Flippin analyzed
19 that and stated that effluent was high in
20 salt and would need to be diluted with
21 river water in order to mitigate those
22 impacts, right?

23 A. Yes, he did.

24 Q. So he's already evaluated that,

1 right?

2 A. He evaluated for just the 80 acres.

3 Q. Indeed. And you haven't evaluated
4 for any number of acres, have you?

5 A. We are not required to.

6 Q. No, you're not required to, but
7 you testified to the Board about hundreds
8 of thousands of acres and you provided no
9 analysis to support it, right?

10 A. Yes.

11 Q. And that's also why Mr. Flippin
12 evaluated a highly salt tolerant crop in his
13 proposal, right -- or proposal isn't the
14 right word -- in his expert report?

15 A. Yes.

16 Q. And the Agency's recommendation
17 also asks Emerald to evaluate agronomic
18 benefit, right?

19 A. Yes.

20 Q. So Mr. Flippin evaluated that, too,
21 didn't he?

22 A. Yes.

23 Q. He evaluated that with regard to
24 Bermuda grass and found that it could take

1 up about 350, I believe, pounds of nitrogen
2 per acre per year, right?

3 A. Right.

4 Q. Now, all this data, that
5 Recommendation 3(g) would ask Emerald to
6 provide and that Emerald had essentially
7 already provided, did AkzoNobel have to
8 provide that as part of its NPDES appli- --
9 application?

10 A. AkzoNobel has been there since
11 before the Agency started. I don't know
12 what they did in their original permit
13 from the '70s.

14 Q. Okay. So you testified this
15 morning that these spray irrigation permits
16 they get issued and then they get renewed
17 every five years, right?

18 A. Yes.

19 Q. So -- and while we haven't been
20 able -- well, I told you that I had not
21 been able to find one in the AkzoNobel
22 documents provided to us and I think you
23 confirmed you didn't see it there either,
24 right?

1 A. Correct.

2 Q. So is -- but is what you're telling
3 me that if one of those kinds of permits is
4 issued, let's say that the first time somebody
5 applied is in, you know, 1975. Do they have
6 to provide all the data again when they get it
7 renewed in 1980?

8 A. They would.

9 Q. And if they -- if they renewed it
10 in 1985, would they have to provide it all
11 again?

12 A. Right, that's -- yes.

13 Q. And every five years --

14 A. Every five --

15 Q. -- they're providing all of --

16 A. -- years --

17 Q. -- that data?

18 THE COURT REPORTER: Wait. One
19 at a time, sir, please.

20 BY MR. DIMOND:

21 Q. Every five years, they have to keep
22 providing all of that data, right?

23 A. Yes.

24 Q. Okay. So, Mr. Liska, I'm -- I'm

1 going to hand you -- I'm going to hand you
2 some pages that the Agency provided to us
3 in discovery. These have -- I'm not going
4 to mark these as an exhibit. They are Bates
5 numbered 01676 through -- well, it looks like
6 01699.

7 Now, you said you've been
8 through the AkzoNobel documents that were
9 provided to Emerald in this proceeding.

10 A. Uh-huh.

11 Q. Is that one of the documents that
12 was in what was provided by the Agency to
13 Emerald?

14 A. Yes.

15 Q. Okay. And what is that document?

16 A. This is AkzoNobel's -- part of their
17 permit application. It looks likes Form 1,
18 Form 2-C. There's a few other things in
19 the back. There's a flow diagram and
20 stuff.

21 Q. Okay. That -- are those all of
22 the basic forms that should be in a permit
23 application?

24 A. Yes.

1 Q. Okay. I looked through there --

2 A. Uh-huh.

3 Q. -- for any information on how
4 many months a year they would be spraying
5 or agronomic benefit or any of the other
6 pieces of information that the Agency asked
7 Emerald to provide in Recommendation 3(g)
8 and I didn't see anything.

9 So I'm asking you to help
10 me out. Is there something in there where
11 AkzoNobel provided that information to the
12 Agency?

13 A. Well, what they would spray irrigate
14 is what's on their form 2-C. It's from pages
15 here on out (indicating).

16 Q. Maybe you can --

17 A. From this section onward, it's just
18 all the parameters that are in the discharge.

19 Q. Okay. Maybe you could look at
20 the numbers on the bottom of the pages --

21 A. Oh, sorry.

22 Q. -- and tell us what numbers you're
23 looking at.

24 A. Page -- so yeah. Sorry. 01683

1 and onward and onward until 06- -- 01696.

2 Q. Okay. Is there -- is there anything
3 on there that -- that specifies what the
4 agronomic benefit would be of spray irrigating
5 that wastewater?

6 A. No.

7 Q. Okay. Is there anything on there
8 about how many months a year they would do
9 it?

10 A. I'm not finding it here. We may
11 have that information somewhere else and may
12 have accidentally not given it for discovery
13 unfortunately. I'm not -- yeah. I'm not
14 seeing it here.

15 Q. Okay.

16 A. That's all yours.

17 Q. That's all the questions that I have
18 on that.

19 Okay. In the Agency's
20 recommended condition 3(h), here, the
21 Agency is asking the Board to impose a
22 condition essentially that the bioreactors
23 be -- that the three bioreactors be repaired
24 and put back online in three years and

1 certain other things.

2 A. Four years, yep.

3 Q. So I guess my question about this
4 is if this -- does this condition relate
5 to hypothetically implementing one of your
6 tertiary nitrification concepts?

7 A. Partially, yes.

8 Q. Okay. So isn't it sort of --
9 is it basically duplicative of condition
10 3(c)?

11 A. Partially. We also thought
12 that getting all four working together --
13 working again would help possibly as far
14 as the nitrification they are getting
15 since occasionally they do get nitrification
16 going and it would be helpful for when --
17 when they're going to redo the first one.

18 The first bioreactor, we
19 were also told during that June meeting
20 with them that they were -- already had a
21 plan that they were going to start
22 refurbishing these bioreactors. So we
23 thought would put a condition in to
24 hold them to what -- what they had

1 already discussed with us during that
2 meeting.

3 Q. Okay. So if the Board grants
4 the adjusted standard and since it doesn't
5 have any information from which to glean
6 that one of your tertiary nitrification
7 steps could actually work or that it
8 would be cost effective, I don't see any
9 relationship between the repairing of the
10 three bioreactors and achieving compliance
11 with the ammonia standard of 304.122(b).

12 Can you aluminate me as to
13 what the connection is?

14 A. Well, one of the problems that
15 was mentioned was that sometimes they
16 achieve nitrification and also -- so having
17 the other ones could help with that and
18 also they mentioned that they needed to
19 do work on the first bioreactor that's
20 working and so that they needed the other
21 three online to run while they were
22 refurbishing the first one.

23 Q. Okay. So let's take those two
24 things in turn.

1 Sometimes they achieve
2 nitrification. Is what you're referring
3 to about the data from the -- mainly the
4 data from the last two and a half, three
5 and a half months --

6 A. Yes.

7 Q. -- where --

8 A. Sorry.

9 Q. -- where the system did seem to be
10 nitrifying?

11 A. Yes. It might have been longer --
12 a little longer than two and a half to three
13 and had a half months, but about that time.

14 Q. My recollection is that it stretched
15 back into mid-September of 2019.

16 A. Okay.

17 Q. Is that -- I'm guessing, too, but
18 that seems roughly right to you?

19 A. Yeah.

20 Q. Okay. Well, that nitrification
21 was being achieved without those three
22 bioreactors being part of the process,
23 right?

24 A. Yes.

1 Q. And, you know, as to providing
2 redundant capacity so that the 1.4
3 million-gallon tank can be repaired, that
4 doesn't really have anything to do with
5 ammonia reduction, does it? It has to do
6 with providing redundancy.

7 A. In this configuration, yes.

8 Q. Okay. Mr. Liska, I've got some
9 questions I want to ask you about the
10 Agency's Recommendation 1.

11 This is the one where the
12 Agency again said we don't think the adjusted
13 standard should be issued, but if you -- if
14 it is, Board, we think you should impose
15 these numeric limits -- concentration limits
16 and load limits, concentration limits being
17 milligrams per liter and the load limits
18 being in pounds per day.

19 I -- without mentioning
20 the numbers, I pretty well summarized what
21 condition one is about, right?

22 A. Yes.

23 Q. So if the Board -- if the Board
24 decides to grant the adjusted standard,

1 I'm assuming that you think this is a
2 pretty important condition, right?

3 A. Yes.

4 Q. So you explained in the hearing
5 in Lacon that you reviewed the data and
6 came up with values that were expressed
7 or that were reflected in Condition 1,
8 correct?

9 A. Correct.

10 Q. And so since you did that and
11 the recommendation was filed on July 9th
12 of -- July 19th of 2019, it stands to
13 reason that you must have done the
14 calculations before July 19th, right?

15 A. Correct.

16 Q. But in your deposition, you
17 didn't tell Ms. Weyhing that you had any
18 input into Recommendation No. 1, right?

19 A. I would -- I don't know what I --
20 I can't remember what I said about that
21 in there.

22 Q. In your deposition, on Page 17,
23 Ms. Weyhing asked you, in connection with
24 the recommendation, "What data did you

1 provide?"

2 "Answer: Let's see."

3 "Question: Take your time."

4 Then the court reporter
5 recorded that there was a pause.

6 "Answer: I would've had some
7 input, would've given at least my thoughts
8 about whether the permittee had complied.
9 Basically, this Part 4 here starting Page 10,
10 I would've gone over with others on whether
11 they had complied with the previous adjusted
12 standard and I would've helped write the
13 recommendations and conclusion at the end
14 of this document."

15 But you didn't say anything
16 specific about Recommendation 1 there, did
17 you?

18 A. No.

19 Q. And later on the court reporter
20 recorded on Page -- beginning on Page 21,
21 Ms. Weyhing asked you, "Did you provide
22 information to use -- to respond to these
23 interrogatories," those being the
24 interrogatories that the Agency filed.

1 "Answer: Well, I, of course,
2 gave my name, age and address."

3 "Question: Of course."

4 "Answer: Let's see."

5 The court reporter recorded
6 another pause.

7 And then you answered, "In
8 number four, I would've said that yes, I was
9 capable of giving information on the numbers
10 that are listed here."

11 Now, I'm not familiar --
12 I'm not familiar with any Agency recommendation
13 number -- I'm sorry. Number four is a reference
14 to the interrogatory answers.

15 So you said, "I would've
16 given information on the numbers that are
17 listed here."

18 "Question: What are those
19 numbers?"

20 "Answer: Everything that's
21 listed here; 3(a), 3(c), 3(d), 3(e), 3(f),
22 3(g), 3(h), 3(l) and 3(m)."

23 "Question: Do you provide
24 any other information?"

1 "Answer: For this document?"

2 "Question: Yes."

3 "Answer: No. It doesn't
4 look like I did."

5 So why didn't you tell
6 Ms. Weyhing that you had input into
7 Recommendation No. 1?

8 A. I'm not sure. I assume it was
9 some kind of oversight. Maybe I wasn't --
10 it was on another page. Maybe I didn't
11 see it or something.

12 Q. Okay. Now, in Lacon, you also
13 said that the ammonia (f)(1) data that you
14 reviewed included both periods of low flow
15 and low production and then you added, on
16 Page 182, "as well as during full production
17 during 2018," right?

18 A. Right.

19 Q. Who told you that production
20 levels in 2018 were "full production"?

21 A. I didn't find that out until day
22 one of the hearing in Lacon when someone
23 mentioned -- I can't remember which person
24 it was -- but someone discussed their 2018

1 and 2019 flow rates and production.

2 Q. Okay. So you think that might
3 have been Mr. Hathcock's testimony?

4 A. Yes.

5 Q. Did Mr. Hathcock use the phrase
6 "full production" with regards to 2018?

7 A. I -- I don't remember if he
8 specifically used full production.

9 Q. Reading from the transcript from
10 page -- from January 14th of Pages 37 and
11 38, my question was, "You were at the plant
12 at the time from May -- if you look at May
13 of 2017 through December of 2017 and you
14 compare the production levels of the plant
15 during that period of time to the months
16 in 2018, was the production higher in 2018?"

17 Mr. Hathcock answered,
18 "Yes."

19 "Question: Was the production
20 of MBTs higher in 2018 than it was in 2017?"

21 "Answer: Yes, it was."

22 "Question: Was 2018 a record
23 year for the level of production of BBTS?"

24 "Answer: Yes, it was."

1 "Question: Was it a record
2 year in terms of overall production of all
3 products from the plant?"

4 "Answer: No, only BBTS."

5 I don't see any reference to
6 2018 as being full production. I'm wondering
7 where you got that from?

8 A. Well, he did mention full produc- --
9 high production BBTS.

10 Q. He did mention higher production,
11 but he didn't say full production, did he?

12 A. No.

13 Q. Have you reviewed the transcript
14 from the January -- if -- if your basis is
15 what you thought you heard on January 14th,
16 did you review the transcript from the hearing
17 on the 14th of January?

18 A. I didn't make this Recommendation 1
19 based on what was in January 14th. This was
20 back in July.

21 Q. You testified --

22 MR. GRADELESS: We're wasting
23 the Board's time so I would just object on
24 relevance. It's cumulative. It's a waste

1 of Board's time reading deposition
2 transcripts -- or not deposition transcripts,
3 but reading transcripts from the other
4 hearing. That's already in evidence.

5 You know, they can make a
6 legal argument in a brief, but what's in
7 evidence is already in evidence.

8 So again at this point,
9 we've been wasting a lot of the Board's
10 time and I'm noting the relevance objection
11 at this point.

12 MR. DIMOND: Hearing Officer Webb,
13 he testified that there was full production
14 in 2018. So far, he has not been able -- I
15 think it's fair for the Board to understand
16 whether there was a basis for that statement
17 or whether there was no basis for that
18 statement. That's all I'm trying to find
19 out.

20 If the witness will recant
21 and say that, in fact, he does not have any
22 basis to conclude that there was full
23 production either overall for the plant
24 or of BBTS in particular and -- and any

1 reference to full production in the testimony
2 on January 15th is stricken from the record,
3 I'm done.

4 HEARING OFFICER WEBB: Okay.
5 Well, you're not wasting my time. My time
6 is to get as much information for the Board
7 as possible on this subject.

8 So you can proceed.

9 BY MR. DIMOND:

10 Q. Are you aware of anything where
11 anyone from Emerald has told you that
12 production in 2018 was "full production,"
13 the quote being your words?

14 A. We -- we based that on loading --
15 load limit numbers from the last -- going
16 back to, I think, 2014. We -- we didn't
17 know whether they had full production at
18 any time and how they define full production
19 from 2014 onward, but we could make a
20 logical assumption that sometime in the
21 last five years that they had high production
22 and that the top number that we gave,
23 according to this, would be as high as
24 the production in the last five years.

1 If they had other information
2 that all -- that it could have been higher,
3 but didn't, it was not given to us.

4 **Q. That didn't answer my question.**

5 Do you have -- are there
6 **any facts at your disposal --**

7 A. Uh-huh.

8 **Q. -- that indicate that Emerald's**
9 **production in 2018 was full production as**
10 **you described it in your testimony on January**
11 **15th?**

12 A. No.

13 **Q. So in Lacon, you told us that the**
14 **daily maximum ammonia should be 110 milligrams**
15 **per liter and the 30-day average should be**
16 **89.6, right?**

17 A. Correct.

18 **Q. And you told us that those were**
19 **the highest values from the summer of 2018**
20 **through the end of 2019, right?**

21 A. Correct.

22 **Q. So do you agree with Mr. Twait**
23 **that it is possibly inappropriate to base**
24 **the permit limits on the data from 2019?**

1 A. You...

2 (Telephone interruption.)

3 MR. DIMOND: Do I need to repeat
4 the question?

5 HEARING OFFICER WEBB: Yes. Why
6 don't you repeat it?

7 BY MR. DIMOND:

8 Q. Do you agree with Mr. Twait that it
9 is possibly inappropriate to base the permit
10 limits on data from 2019?

11 A. I -- I can't recall exactly what
12 his testimony was on that.

13 Q. Well, what he said was -- so on
14 Page 52, I asked Mr. Twait, "Do you really
15 think it's appropriate to base an analysis
16 of what permit limits should be based on,
17 nine months of data, where many of those
18 months had production that was not reasonable
19 maximum production to be expected for the
20 facility?"

21 After some objections,
22 the answer on Page 53 is, "I don't believe
23 our intent was to limit production. We did
24 not know that production was down during

1 **these months."**

2 **Do you agree with Mr. Twait**
3 **that it would be inappropriate to use months**
4 **of data when production was significantly down**
5 **to set permit limits?**

6 A. Not necessarily. If they -- they --
7 they mentioned that they had changed production
8 methods for a significant number of -- that --
9 of their products. If -- whether or not they --
10 let me back up.

11 If they were to keep those,
12 the way that they made those chemicals, and
13 keep doing it the same way, they would still
14 have -- they could meet those limits that
15 they have already shown that they have.

16 If the reason that they
17 can't go -- let me go back. If the reason
18 that they -- let me use -- they -- they met
19 roughly 90 and 110 prior for those last
20 six months.

21 If they are just running
22 more batches, but getting the -- the same
23 concentration from each one, their
24 concentrations of their wastewater would

1 overall be the same. It would still be
2 89.6 and 110 as a max, but they would just
3 have a higher pounds per day, but the
4 concentrations would stay the same because
5 they're running the reactions the same way.

6 They're just running more
7 of them rather than running them just some
8 of the time and then not running them --
9 not running anything at other times.

10 **Q. Now, I think you said as part of**
11 **your answer that they made changes to**
12 **the production processes for a number of**
13 **products. I'm not aware of any testimony**
14 **with the exception of one product.**

15 **What many products are**
16 **you talking about?**

17 A. They said they have ten. I think
18 they were -- they definitely did one and I
19 thought they had mentioned they were working
20 on several more.

21 **Q. Okay. Working on --**

22 A. Okay.

23 **Q. -- but what other products do you**
24 **think that production changes were made on**

1 other than BBTS?

2 A. I'm only going by what they said.

3 Q. Well, you're actually going on
4 what your memory is of what they said.

5 A. Right.

6 (Document marked as Petitioner's
7 Hearing Exhibit No. 16 for
8 identification, 02/03/2020.)

9 BY MR. DIMOND:

10 Q. Okay. So I'm going to hand you what
11 we've marked at Exhibit 16.

12 (Document tendered
13 to the witness.)

14 BY THE WITNESS:

15 A. Uh-huh.

16 BY MR. DIMOND:

17 Q. Are you -- do you recognize there
18 is really sort of three separate documents
19 in Exhibit 16?

20 Do you recognize what those
21 are?

22 A. Yes.

23 Q. What are they?

24 A. Well, we've got MBT information.

1 We've got a bunch of slides that I think
2 were from our meeting with them. Yeah,
3 that looks like what we have.

4 Q. Okay. Are these documents that
5 were provided to you by Emerald at the
6 meeting that occurred in June of 2019?

7 A. Yes.

8 Q. So did these documents reflect
9 changes to any process other than BBTS?

10 A. No.

11 Q. At that meeting in June of 2019,
12 did anybody tell you that changes had been
13 made to any process other than the BBTS
14 process?

15 A. I can't remember if they did.

16 Q. Now, in the recommendation -- in
17 Recommendation 1 -- well, you -- before
18 the recommendation was filed, you read it,
19 correct?

20 A. Yes.

21 Q. And you signed the certification
22 saying that the factual statements in the
23 recommendation were true, correct?

24 A. Yes.

1 **Q. Okay. The first sentence of**
2 **Recommendation 1 says, "Due to conceded**
3 **changes within Petitioner's MBDS process,**
4 **since the fall of 2018, did anybody tell**
5 **you about changes in the MBDS process?**

6 MR. GRADELESS: We can amend
7 the State's recommendation as a typo.

8 MR. DIMOND: Well, I don't want
9 the --

10 MR. GRADELESS: Well, I can
11 amend it at any time and orally at the
12 hearing that's it's a typo. We're wasting
13 the Board's time.

14 MR. DIMOND: What we are now
15 doing is having counsel testify for the
16 witness.

17 MR. GRADELESS: No. I'm
18 testifying for the state and we're allowed
19 to amend our recommendation at any time,
20 including orally at the hearing.

21 I am amending it right
22 now based upon a typographical error. It's
23 probably my fault. I don't know what we're
24 doing, but maybe -- maybe other people do,

1 but...

2 HEARING OFFICER WEBB: Could
3 you file an errata sheet --

4 MR. GRADELESS: Yes.

5 HEARING OFFICE WEBB: -- or some
6 kind of amended -- something in writing?

7 MR. GRADELESS: Yes.

8 BY MR. DIMOND:

9 Q. Mr. Liska, you certify that statement
10 as true.

11 Is it true?

12 A. It is probably a different process
13 than what's here, MBDS.

14 Q. Okay. So you agree that your
15 certification of -- of that statement in
16 the -- in the recommendation was not
17 accurate?

18 A. It -- I had -- it has a typo in
19 it, yeah.

20 Q. You're describing it as a typo?

21 A. (Witness nodded.)

22 Q. Okay.

23 HEARING OFFICER WEBB: We'll
24 address it on redirect. How's that?

1 MR. GRADELESS: Okay.

2 BY MR. DIMOND:

3 Q. The -- so we looked at Exhibit 16
4 and particularly, looking at the page that
5 talks about the BBTS, it shows sample results
6 for runs on -- in September of 2018 and February
7 of 2019, correct?

8 A. Yes.

9 Q. What did you understand this document
10 to mean?

11 A. Which one in particular are you
12 looking at?

13 Q. The -- the page about the BBTS?
14 The -- the page that's labeled --

15 A. Page 2?

16 Q. -- Emerald performance materials,
17 Henry plant, BBTS, effluent improvement.

18 A. Okay.

19 MR. GRADELESS: Can I get a
20 clarification what page we're on?

21 MR. DIMOND: It's the page
22 labeled Emerald performance --

23 THE WITNESS: I think it's the
24 second page.

1 THE COURT REPORTER: Let him
2 finish, please. Don't talk on top of him.

3 THE WITNESS: Sorry.

4 HEARING OFFICER WEBB: It's right
5 here.

6 THE WITNESS: Thank you.

7 BY THE WITNESS:

8 A. Are we waiting on me?

9 BY MR. DIMOND:

10 Q. What I -- what I asked you was
11 what did you understand that page to mean?

12 A. When running this reaction, they
13 are -- it looks like they are getting much
14 lower amounts of BBTS in their discharge
15 stream. I can conclude that they're running
16 their reaction further along and using up
17 more of their initial ingredient.

18 Q. How do you know that it was
19 being run further to completion?

20 How do you know that
21 there wasn't something else that was
22 done to decrease the amount of BBTS in
23 the wastewater stream?

24 A. Well, that's usually how chemical

1 reactions run and I think I remember in the
2 meeting someone mentioning that they are
3 running their reactions further.

4 Q. Now, on -- this document -- based
5 on this document, the only thing that you
6 could conclude was that the result of these
7 processes was achieved in February of 2019,
8 right?

9 A. Yes.

10 Q. And this document doesn't tell you
11 that whatever improvements were seen with
12 BBTS were also meant that there were equal
13 improvements with MBT, does it?

14 A. Correct.

15 Q. Now, as to the load limits that
16 are in Recommendation 1, those are the --
17 the limits that you recommended in terms
18 of pounds per day?

19 A. Yes.

20 Q. In Lacon, I understood you to say
21 that you based those, based on your analysis
22 of all the data going back to 2014, all the
23 way up to 2019. That's what I understood
24 and I thought you said that again today,

1 but, is that right?

2 A. Right.

3 Q. Have you ever used this approach
4 to establish load limits for any other
5 discharger?

6 A. Yes.

7 Q. When?

8 A. We used this for ExxonMobil.

9 Q. Is that how the limits are
10 calculated in ExxonMobil's permit today
11 in terms of pounds per day?

12 A. For the most part, yes.

13 Q. I don't -- I didn't bring it
14 with me, Mr. Liska.

15 A. Uh-huh.

16 Q. But I looked at ExxonMobil's
17 current permit?

18 A. Uh-huh.

19 Q. It has concentration limits for
20 ammonia of six milligrams per liter per
21 day as a daily maximum --

22 A. Uh-huh.

23 Q. -- and three milligrams per day --
24 or three milligrams per liter as a 30-day --

1 as a 30-day average.

2 A. Uh-huh.

3 Q. I calculated out the load limits
4 in pounds per day. They did not reflect
5 anything other than the formula that we've
6 talked about before of taking the milligrams
7 per liter times the either design maximum
8 value or the design average value depending
9 upon whether we're talking about a daily
10 maximum or a 30-day average times the conversion
11 factor of 8.34 and that's how the load limits
12 were come up with.

13 What did I miss?

14 A. Let me think. Did you run that
15 for all the parameters? It may have been
16 for ammonia, but not for other parameters.

17 Q. I'm sorry. You say you may have
18 done something else for other parameters,
19 but not for ammonia?

20 A. Correct.

21 MR. DIMOND: Okay. Well, Hearing
22 Officer, we will -- we will supplement the
23 record on this point. I -- I didn't bring
24 it with me.

1 BY MR. DIMOND:

2 Q. Now, the regulation from which
3 Emerald is seeking an adjusted standard,
4 304.122(b), that regulation doesn't set
5 any load limits, does it?

6 A. Correct.

7 Q. Do you agree with Mr. Twait that
8 the Agency does not usually set permit
9 limits to restrict plant production?

10 A. Correct.

11 Q. The -- the -- you know, you also
12 testified about Citgo's petroleum refinery
13 in this matter, right?

14 A. Yes.

15 Q. And there is some documentation
16 around the Citgo permit that indicates that
17 the Agency thinks that its effluent is
18 toxic for ammonia, right?

19 A. Okay.

20 Q. Again, Mr. Liska, don't agree with
21 me just because I asked a question.

22 Do you know or not?

23 A. I -- I have -- I never renewed
24 Citgo's permit as far as their NPDES

1 permit. I did go through some other stuff
2 with it.

3 (Document marked as Petitioner's
4 Hearing Exhibit No. 19 for
5 identification, 02/03/2020.)

6 BY MR. DIMOND:

7 Q. So I'm going to hand you what
8 we've marked as Exhibit 19.

9 (Document tendered
10 to the witness.)

11 BY THE WITNESS:

12 A. Sure.

13 BY MR. DIMOND:

14 Q. For the record, Exhibit 19 is a
15 copy of the Illinois EPA cover letter dated
16 June 10, 2016, to Citgo and then its NPDES
17 permit that was with an issue date of June
18 10 of 2016.

19 And in -- if I look on
20 Page 7 of the permit in condition -- Special
21 Condition 12, No. 4, it -- are you with me?

22 A. Biomonitoring under special
23 conditions?

24 Q. Yes. If I look at Special Condition

1 12, No. 4, it says toxicity. The permittee
2 has previously been granted a 10:1 ZID for
3 ammonia, chloride and sulfates, therefore,
4 (f)(1) toxicity attributed to these parameters
5 is authorized up to, but not in exceedance
6 of, 11.0 toxic units.

7 Am I understand this correctly
8 that the Agency thinks that Citgo's (f)(1)
9 is at least in part toxic because of ammonia?

10 A. I -- I would've never made this
11 type of evaluation. That's done by the water
12 quality section.

13 Q. Okay. I understand that, but
14 this -- doesn't -- don't you read this
15 sentence in the permit to say that the
16 Agency believes that Citgo's effluent
17 is toxic at least in part because of
18 ammonia?

19 A. I -- I'm not positive.

20 Q. Well, I understand you didn't
21 write this permit, but do you think a
22 permit writer would write that in there
23 if the water quality section hadn't
24 concluded that the effluent was toxic for

1 **ammonia?**

2 A. I'm not 100 percent positive. It
3 just could be because of the -- to meet limits,
4 but it -- it's possible.

5 Q. Okay. Now, if I look at -- if I
6 look at Page -- if I look at Page 2 of the
7 permit, Page 2 of the permit has a condition
8 that specifies various discharge limits for
9 Outfall 001, correct?

10 A. Yes.

11 Q. And there's a line on there for
12 **ammonia as nitrogen, correct?**

13 A. Yep.

14 Q. Okay. And it specifies that the
15 concentration limits are a 30-day average
16 of 3.0 and a daily maximum of 6.0, right?

17 A. Milligrams per liter, yes.

18 Q. Right. And the units would be
19 **milligrams per liter, correct?**

20 A. Yes.

21 Q. And then for the load limits that
22 are stated in pounds per day, the 30-day
23 average is 145, correct?

24 A. Correct.

1 Q. And the daily maximum is 418,
2 correct?

3 A. Correct.

4 Q. Would you be surprised if I told
5 you that if you take the 30-day average of
6 three milligrams per liter, multiply it
7 times the design -- well, strike that.

8 So up above the line
9 for ammonia, there's a line that says
10 Outfall 001, treated refinery wastewater
11 (DAF equal 5.79 million gallons per day)
12 or well, it says MGD, but that means
13 million gallons per day, right?

14 A. Yes.

15 Q. And DAF means design average?

16 A. Design average flow, yes.

17 Q. Design average flow. Thank you.

18 And then there's a slash
19 and then there is the acronym DMF, which
20 means design maximum flow, right?

21 A. Yes.

22 Q. And then it says equals 8.35 MGD
23 or million gallons per day, right?

24 A. Correct.

1 Q. So I took out my -- well, actually
2 I didn't use a calculator. I used an Excel
3 spreadsheet.

4 I took the three milligrams
5 per liter, multiplied it times the 5.79 million
6 gallons per day, the design average flow and
7 multiplied it times the conversion factor of
8 8.34 and I came up with -- lo and behold, I
9 came up with 145 pounds per day.

10 So that's how the Agency
11 calculated the load limit here for Citgo,
12 right?

13 A. Correct.

14 Q. And I took my Excel spreadsheet
15 and I multiplied six milligrams per liter
16 times the design maximum flow of 8.35 million
17 gallons per day and I multiplied it times
18 the conversion factor of 8.34 and I came
19 up with 418 pounds per day.

20 So that's how the Agency
21 calculated this limit for this permit for
22 Citgo, right?

23 A. In this permit, yes.

24 Q. And that's a permit where the

1 Agency has also included a statement that
2 indicates that it believed -- at least at
3 the time this permit was issued, that it
4 believed that Citgo's effluent was toxic
5 at least in part due to ammonia, correct?

6 A. Yes.

7 Q. Okay. So back to Emerald, at
8 Lacon, you told us that you looked at the
9 DMR data all the way back to 2014 to come
10 up with pound per day load limits, right?

11 A. Yes.

12 Q. I'm looking -- I want to look
13 at -- this will be in the book of petitioner's
14 exhibits.

15 A. Okay.

16 Q. Look at the Petitioner's Exhibit
17 14.

18 Now, according to the
19 recommendation, you concluded that when you
20 looked all the way back to the data through
21 2014, the highest value you came up with
22 was 553 pounds per day. That's what's
23 included in Agency's Recommendation 1?

24 A. Yes.

1 Q. Okay. When I look at Petitioner's
2 Exhibit 14, which is the summary of the DMR
3 data, when I look at the value of the
4 pounds per day for March of 2014, it
5 says 573.0.

6 Isn't that higher than
7 553?

8 (Document tendered
9 to the witness.)

10 BY THE WITNESS:

11 A. What -- what date was that?

12 BY MR. DIMOND:

13 Q. March of 2014.

14 A. That's on the next page?

15 Q. Well, I'm not sure which page you
16 are looking at.

17 A. Oh.

18 Q. There's -- there's a page that says
19 2000- -- has the data for 2013 through 2015
20 by month. It's the second page of Exhibit 14.

21 A. Fourteen, yes.

22 Q. And the value in March of 2015, 573,
23 that's higher than the 553 that you put in
24 the recommendation, right?

1 A. Yes.

2 Q. And then if I look at April of 2014,
3 the value is 757.8 pounds per day. That --
4 that's higher than 553 pounds per day, too,
5 isn't it?

6 A. Yes.

7 Q. So my question is how did you miss
8 those two?

9 A. Well, I guess we started from the
10 middle of 2014.

11 Q. Well, that's not --

12 A. We may not have used all of 2014.
13 We were -- we were in the middle of 2019.
14 So going back five years, we would've started
15 in the middle of 2014.

16 Q. Well, Mr. Liska, I -- your testimony
17 keeps changing.

18 In Lacon, you told us that
19 you went all the way back to 2014. So, I
20 mean, what is it? If you're only going back
21 five years, that would only take you back --
22 you've got all of the 2019 data.

23 A. Uh-huh.

24 Q. So what -- what did you do?

1 **At Lacon, you told us you**
2 **looked at all of the 2014 data.**

3 **What did you do?**

4 A. We probably did not use it from
5 all the way to January of 2014. We probably
6 started in the middle or just at 2015. It
7 would've been an oversight on my part as
8 far as saying 2014 instead of 2015. It --
9 it's still five years of data though.

10 **Q. Why would you limit yourself to**
11 **five years?**

12 A. Permits are five years long. We
13 generally look at five years of data.

14 **Q. So what?**

15 **What does that have to do**
16 **with setting a pound limit for this permit?**

17 **You're proposing a -- a**
18 **method of setting a pound limit that's**
19 **different from what is used for Citgo, is**
20 **different from what is used for virtually**
21 **every other permit that the Agency issues.**

22 A. Uh-huh.

23 **Q. Why are you limiting yourself to**
24 **five years?**

1 **What if the plant had higher**
2 **production more than five years ago?**

3 **Is it the Agency's position**
4 **that it intends to limit a company's operations**
5 **through the permit limits?**

6 A. No.

7 **Q. So why would you limit yourself to**
8 **five years?**

9 A. We assumed that within those five
10 years, we would have enough data to -- that
11 they would not -- in the future go higher
12 than what is in the last five years.

13 We had -- we were given
14 nothing that would show that they suddenly
15 had more than they had -- if they had more
16 production than in the previous five years.

17 **Q. So you --**

18 A. We generally -- we have to cut
19 off somewhere. Permits are five years.
20 We generally used five years of data.

21 **Q. So you made an assumption?**

22 A. Uh-huh.

23 **Q. But it's still your testimony**
24 **that you don't set pound per day limits**

1 to limit the production of a plant?

2 A. Correct.

3 Q. Now, as to the 30-day average
4 load, the number that's in the recommendation
5 is 475 pounds per day, right?

6 A. Yes.

7 Q. And again, you -- in Lacon, you
8 told us that you went back and you looked
9 at all of the data all the way back to 2014.

10 A. Uh-huh.

11 Q. So the value in April of 2014
12 on Petitioner's Hearing Exhibit 14 for
13 April of 2014, the pounds per day were
14 494.4 pounds, right?

15 A. Uh-huh.

16 Q. Have -- have you compared Petitioner's
17 Hearing Exhibit 4 -- 14 to the DMR data that
18 the Agency has?

19 A. Yes.

20 Q. And were all of the -- were all of
21 the values on Petitioner's Hearing Exhibit 14
22 either identical or within small deviations
23 that you would consider to be sort of rounding
24 error?

1 A. I would think so, yes.

2 Q. That was my conclusion too.

3 A. Uh-huh.

4 Q. And so based on what you earlier
5 said, you are now saying that you maybe
6 didn't look at all the data from 2014, but
7 you only went back five years into the middle
8 of 2014?

9 A. Correct.

10 Q. Now, you also testified in Lacon
11 that you arrived at the 475 pounds per day
12 by applying a ten percent -- by applying a
13 ten percent adjustment to the value of 430
14 pounds per day that you had identified in
15 September of 2018, right?

16 A. Right.

17 Q. Now, when I looked back at the
18 recommendation of the Agency on Pages 25
19 and 26 where condition one is, it doesn't
20 say anything about a ten percent adjustment
21 factor, does it?

22 A. No, I don't think so.

23 Q. Why was that left out?

24 A. I don't think we were required

1 to explain exactly why in this. We just --
2 we just put, you know, what numbers we had
3 calculated.

4 Q. Okay. But you certified this as
5 being true and accurate and it says that
6 you took the highest values from September
7 of 2018 to May of 2019.

8 So for this 30-day load,
9 that's not what you did, right?

10 You took the highest and
11 then you added ten percent, but -- so
12 Recommendation 1 isn't really true as to
13 how the 475 pound per day was calculated,
14 is it?

15 A. Right. It neglects to mention
16 that we added ten percent. We could lower
17 it, if you'd like.

18 Q. So if you applied that same approach
19 to the -- the actual highest value in April
20 of 2014, you'd get 494.4 plus ten percent is
21 543.8, right?

22 A. Okay. Yep.

23 Q. Now, I'm curious, why did you add
24 ten percent to the 30-day average, but not

1 the daily maximum?

2 I think you told us in Lacon
3 that that was your best professional judgment
4 as an engineer. So I'm wondering why you
5 didn't add it to the daily maximum?

6 A. Well, we've seen -- we wanted to
7 add a factor in case of high production for
8 an extended time knowing that that could
9 drive the overall average up, but for -- as
10 far as the max, we assumed that over the
11 last five years whatever the max number
12 that we -- that was given through the data
13 that they wouldn't be higher than that
14 because that -- that's what their maxi
15 flow was.

16 Q. Okay. So again, you were making
17 assumptions?

18 A. Yes.

19 Q. What was that assumption based on?

20 A. Based on our experience of calculating
21 these numbers.

22 Q. But in the normal instance, you
23 don't look at somebody's DMR data at all.
24 You just take the concentration times 8.34,

1 times the design average value, right?

2 A. Uh-huh.

3 Q. Or for the daily maximum, you take
4 concentration, times 8.34, times the design
5 maximum?

6 A. Right.

7 Q. Now, Mr. Liska, you also testified
8 in Lacon at Page 184, you testified that
9 Emerald did not take DMRs into account in
10 arriving to its proposed load limits, right?

11 A. I'm sorry. Can you repeat that?

12 Q. In Lacon, you testified that
13 Emerald did not take into account the DMR
14 data in arriving at its proposed load
15 limits, right?

16 A. I -- I don't think we (sic.) did.

17 MR. DIMOND: Okay. I'm -- I'm
18 sorry. What was his answer?

19 (Whereupon, the requested
20 portion of the record was
21 read accordingly.)

22 BY THE WITNESS:

23 A. That they did.
24

1 BY MR. DIMOND:

2 Q. So you're agreeing with me that
3 that's what you testified to, that -- that
4 they -- that Emerald did not look at the
5 DMR data in proposing the load limits?

6 A. Correct.

7 Q. How did you reach that conclusion?

8 A. I -- from what I remember, they --
9 either they testified or it was written that
10 they took a particular number and just added
11 25 percent to it, but didn't explain why.

12 Q. They didn't add 25 percent. Did
13 they lower it?

14 A. Did they lower it by 25 percent?

15 Q. You're the witness. I'm not supposed
16 to testify.

17 Do you remember one way or
18 the other?

19 A. I remember the 25 percent number.

20 Q. Okay. You remember the 25 percent.

21 Mr. Hathcock did testify about
22 this.

23 A. Okay.

24 Q. It's in his written testimony at

1 Paragraph 51. It says, "In contrast over
2 the last four years, despite the variability
3 and the discharge, the Henry plant's ammonia
4 discharge measured as load has never been
5 more than 34 percent of the daily maximum
6 load, 1,633 pounds per day, and has never
7 been more than 51 percent of the 30-day
8 average load limit 841 pounds per day.

9 These calculations are reflected on
10 Petitioner's Hearing Exhibit 3," which
11 later changed to Exhibit 14, we substituted
12 that, and then it goes on from there.

13 Now, that date -- the data
14 that he cites here, the 34 percent and
15 the 51 percent comes from the bottom of
16 Petitioner's Hearing Exhibit 14, right,
17 on the last page of Petitioner's Hearing
18 Exhibit 14?

19 A. Okay. Yes.

20 Q. And so what this is -- what this
21 calculation is doing is it's comparing the
22 maximum for each year from the DMRs --

23 A. Okay.

24 Q. -- to the load limit that was set

1 by the Board in AS 13-2?

2 A. Okay.

3 Q. So doesn't -- isn't that a method
4 of considering the DMR data?

5 A. Yes, yes, it is.

6 Q. Yes, it is.

7 So when you testified that
8 Emerald did not take into account the DMR
9 data, that testimony, in fact, was not true,
10 was it?

11 A. It was a mistake. I -- I was mainly
12 about where the 25 percent came from. I must
13 have missed that it was based off of the --
14 that -- the calculation was originally based
15 off of the DMR. I'm just not sure why --
16 why they used 25 percent after that.

17 Q. Mr. Hathcock's testimony, again
18 at Paragraph 51 of his written testimony,
19 which is Exhibit 1, says, "This data,
20 meaning the percentage calculations that
21 are on Petitioner's Hearing Exhibit 14,
22 this data has convinced us that Emerald
23 can reliably meet load limits reduced by
24 25 percent in the limits set in AS 13-2

1 even considering routine variability and
2 plant operations and product mix and
3 possibly increased production."

4 So didn't he -- didn't
5 he explain that they evaluated that and
6 they thought that we could reliably --
7 that Emerald thought that it could reliably
8 meet the limits reduced by 25 percent?

9 A. Yes.

10 MR. DIMOND: That's all the questions
11 I have.

12 MR. GRADELESS: I need to use the
13 bathroom.

14 HEARING OFFICER WEBB: Let's take
15 five.

16 (Whereupon, after a short
17 break was had, the following
18 proceedings were held
19 accordingly.)

20 HEARING OFFICER WEBB: Are you ready,
21 Rex?

22 MR. GRADELESS: Well, I will try my
23 best.

24 HEARING OFFICER WEBB: Okay.

1 MR. GRADELESS: I only have chicken
2 scratch notes.

3 HEARING OFFICER WEBB: We're back on
4 the record. Okay.

5 MR. DIMOND: Hearing Officer Webb,
6 Mr. Gradeless and I spoke during the break
7 and he agreed that I could take care of one
8 housekeeping matter before he began his
9 redirect.

10 HEARING OFFICER WEBB: Okay.

11 MR. DIMOND: We do move the admission
12 of Exhibits 16 -- I'm waiting for you to get the
13 piece of paper.

14 HEARING OFFICER WEBB: Okay. Yes.
15 I've got it. I've got 16.

16 MR. DIMOND: We move the admission
17 of Petitioner's Hearing Exhibits 16, 19, 21
18 and 22.

19 HEARING OFFICER WEBB: And are
20 we certain that Petitioner's 15 was admitted
21 in Lacon? Because I -- I don't have a record
22 of it, but if you say it was --

23 MR. DIMOND: I believe -- I believe
24 that Exhibit 15 was --

1 HEARING OFFICER WEBB: Was admitted?

2 MR. DIMOND: -- admitted in Lacon.

3 HEARING OFFICER WEBB: Okay.

4 MR. DIMOND: But if it's not --

5 HEARING OFFICER WEBB: Okay.

6 MR. DIMOND: -- I would move it
7 to be admitted again.

8 HEARING OFFICER WEBB: Okay. That's
9 the one I seem to have lost track of. Okay.

10 MR. GRADELESS: I have it admitted
11 without objection.

12 HEARING OFFICER WEBB: You have it
13 admitted?

14 MR. GRADELESS: Yeah.

15 HEARING OFFICER WEBB: Okay.

16 MR. GRADELESS: We've been keeping
17 track of it.

18 HEARING OFFICER WEBB: All right.
19 Thank you.

20 Any objection to --

21 MR. GRADELESS: No objection.

22 HEARING OFFICER WEBB: -- any of
23 those?

24 MR. GRADELESS: No.

1 HEARING OFFICER WEBB: Okay.
2 Petitioner's Exhibits 16, 19, 21 and 22
3 are admitted.

4 (Petitioner's Exhibit Nos. 16,
5 19, 21 and 22 were admitted
6 into evidence.)

7 HEARING OFFICER WEBB: All right.
8 Mr. Gradeless, whenever you
9 are ready.

10 MR. GRADELESS: All right. I would
11 prefer to stand, but I have so many depositions
12 and transcripts I'm looking at, I'm not going to
13 stand. So I apologize in advance.

14 R E D I R E C T E X A M I N A T I O N
15 by Mr. Gradeless

16 Q. Mark, I wanted to discuss just a
17 little bit of a timeline.

18 The Petitioner filed this
19 petition, if you know, sometime in April of
20 2019, is that -- is that true?

21 A. Yes.

22 Q. Okay. And then the Agency, I believe,
23 asked for an extension of time to file its
24 recommendation.

1 Do you remember that?

2 A. Yes.

3 Q. And you were part of a group
4 that assisted the Agency in forming this
5 recommendation, right?

6 A. Yes.

7 Q. And that recommendation was filed
8 by the Agency on July 19, 2019; is that right?

9 A. Yes.

10 Q. As far as you know, Agency, to date,
11 has not amended that recommendation based on
12 any evidence in this case?

13 A. No.

14 Q. Okay. Now, at some point in time
15 the Agency received a report from Mr. Flippin.

16 Do you remember that report?

17 A. Yes.

18 Q. And that was on October 23rd, 2019?

19 A. Yes.

20 Q. And that report responded to the
21 Agency's recommendation filed in July, is
22 that your understanding?

23 A. Yes.

24 Q. And so that report in October 2019

1 was not filed with the Petitioner's initial
2 petition; is that fair?

3 A. Right.

4 Q. Okay. So as far as you know, that
5 analysis hadn't been done at the time that
6 the Petitioner filed its petition?

7 A. Correct.

8 Q. And then for better or worse, we had
9 depositions.

10 A. Yes.

11 Q. You remember those depositions?

12 A. Yes.

13 Q. And those were -- your deposition was
14 December 16, 2019?

15 A. Yes.

16 Q. Okay. And that was -- is it fair
17 to say the first time you've ever given a
18 deposition?

19 A. Yes.

20 Q. Now, I didn't meet with you and tell
21 you what to say, did I?

22 A. No.

23 Q. No- -- nobody met with you and told
24 you what to say, did they?

1 A. Correct.

2 Q. Now, I was at that deposition?

3 A. Yes.

4 Q. You were there obviously?

5 A. Uh-huh.

6 Q. Is that a yes?

7 A. Yes.

8 Q. Okay. And Counselor Weyhing was
9 at the deposition; is that correct?

10 A. Yes.

11 Q. I want to make sure I'm pronouncing
12 it correct.

13 Mr. Dimond was not there,
14 right?

15 A. Correct.

16 Q. Okay. Now, during that deposition --
17 and again, I hadn't told you about what you
18 would testify about, right?

19 A. Correct.

20 Q. You told nobody what you were going
21 to testify about?

22 A. Correct.

23 Q. You had no expectation whatsoever?

24 A. Correct.

1 Q. And you were asked the question,
2 "What topics are you going to testify about
3 at the hearing in this matter?" This is on
4 Page 20, Lines 12 through 13. And you gave
5 the following answer: "I don't really know.
6 I thought that was something they asked us.
7 I've never done one of these before so I'm
8 not really sure what I would testify about."

9 Did I read that correctly?

10 A. Correct.

11 Q. All right. Continuing on, you
12 were asked these questions, "Do you intend
13 to testify about the spray irrigation program
14 at the hearing?"

15 You gave the following
16 answer: "Again, I don't know how I'm going
17 to testify. I'm not sure how that works."

18 Do you remember giving that
19 answer?

20 A. Yes.

21 MR. DIMOND: Objection. Is he
22 impeaching the witness here?

23 MR. GRADELESS: Well...

24 HEARING OFFICER WEBB: I don't

1 think that --

2 MR. DIMOND: When I read from the
3 transcripts, I was impeaching the witness.
4 I've never heard of a lawyer trying to impeach
5 his own witness with testimony from a
6 deposition.

7 HEARING OFFICER WEBB: Well, you
8 did bring up his deposition. So...

9 MR. DIMOND: As impeachment,
10 but I've heard of -- if -- if he's got a
11 question to ask, that's fine. But if he's
12 not impeaching, I don't think it's the
13 proper use of a deposition.

14 MR. GRADELESS: The credibility
15 of this witness was attacked for about six
16 hours. We went over depositions and hearing
17 transcripts trying to suggest that Mr. Liska
18 was making up some stories and lying to the
19 Board. This is relevant.

20 HEARING OFFICER WEBB: Well, I --
21 I think that the -- you did raise the issue
22 that his deposition was perhaps not as
23 productive as it thought to have been
24 considering his direct testimony. So for

1 that reason, I'm -- I'm going to allow your
2 line of questioning.

3 MR. GRADELESS: Thank you.

4 BY MR. GRADELESS:

5 Q. All right. Now, Mr. Liska, now
6 at the time I think you were asked about
7 Mr. Flippin's October 23, 2019, report,
8 right?

9 A. Yes.

10 MR. DIMOND: I'm just going
11 to object that the date October 23 is not
12 correct.

13 MR. GRADELESS: What date is it?

14 MR. DIMOND: It's October 11th.

15 BY MR. GRADELESS:

16 Q. Thank you for that. It is whatever
17 it is, I guess.

18 The October 11th report,
19 nonetheless, you were asked about it in the
20 deposition; is that fair?

21 A. Yes.

22 Q. And at that time, is it fair to
23 say you hadn't read much of that report?

24 A. Correct.

1 Q. Okay. And you -- between October
2 2019 and December, when you took your
3 deposition, did you have anything else going
4 on at work during that time?

5 A. Yes, all -- all of my other duties
6 as an engineer here at Illinois EPA.

7 Q. Okay. You were asked the question,
8 "Do you expect to testify about the technical
9 memorandum at the hearing in this case?" And
10 you provided the following answer, "I'm not
11 sure what I'm testifying about."

12 Do you recall giving that
13 answer --

14 A. Yes.

15 Q. -- when you were asked?

16 A. Yes.

17 Q. Okay. And you just didn't know
18 what you were going to talk about?

19 A. Correct.

20 Q. Okay. Finally, on Page 64, you
21 were shown a document. I believe it was
22 a -- it was the October 2009 technical
23 memorandum.

24 You were asked the question

1 "Do you intend to testify about the documents
2 in this document hearing?" And then your
3 answer, "I don't know what I'm going to
4 testify about."

5 You kept saying you didn't
6 know what you were going to testify about;
7 is that right?

8 A. Right.

9 Q. Okay. Now, you were there in Lacon?

10 A. Yes.

11 Q. You weren't asked to leave the room,
12 were you?

13 A. No.

14 Q. You sat through two days of hearings?

15 A. Yes.

16 Q. And you heard opening statements,
17 right?

18 A. Correct.

19 Q. You heard the witnesses?

20 A. Correct.

21 Q. Okay. Now, between your deposition
22 in December 2019 and the hearing dates, and
23 I guess -- let me back it up.

24 During the deposition of

1 December 16, 2019, and the date on which you
2 testified on January 15, 2020, you had been
3 using information, right?

4 A. Yes.

5 Q. You didn't exist under a rock
6 during that period?

7 A. Correct.

8 Q. Okay. Now, during -- before that
9 testimony in Lacon, nobody told you what to
10 say; is that right?

11 A. Correct.

12 Q. Okay. You weren't coached to --
13 you know, if you wanted to say five, you
14 weren't coached to say four, right?

15 A. Correct.

16 Q. Okay. Now, we talked a little
17 bit today about ExxonMobil and their permit
18 and during the deposition, you hadn't had
19 much knowledge about generally their permit,
20 but what did you do to gain that knowledge
21 again?

22 A. I went over --

23 Q. I'm sorry. Between October 2019 --
24 or I'm sorry -- between December 2019 and the

1 **hearing?**

2 A. I went over the permit again, I
3 went over construction permits, I went over
4 the -- their Illinois Pollution Control
5 Board adjusted standard that they had,
6 the R 97-28.

7 **Q. And you based some of your**
8 **testimony in Lacon based on that review;**
9 **is that right?**

10 A. Yes.

11 **Q. You further based some of your**
12 **testimony in Lacon based on what you heard**
13 **at that hearing?**

14 A. Yes.

15 **Q. And what you thought you heard?**

16 A. Yes.

17 **Q. And your memory with respect to**
18 **what you may or may not have heard; is that**
19 **fair?**

20 A. Yes, correct.

21 **Q. Do you remember everything you**
22 **hear?**

23 A. No.

24 **Q. Are you ever mistaken?**

1 A. My wife thinks so, yes.

2 Q. Okay. We talked a little bit, I
3 guess, about -- excuse me -- I think it was
4 after you returned from the Pizza Peel --
5 let me bring you back there. We went to
6 the Pizza Peel.

7 You came back and testified
8 a little bit about the baffling system.

9 Do you remember that?

10 A. Yes.

11 Q. Did anything jog your memory about
12 a baffling system prior to that testimony?

13 What, if anything?

14 A. I had -- I had seen it in
15 ExxonMobil's permit, but it didn't really
16 hit me that that could be useful here
17 until I heard some testimony regarding
18 some municipalities using it.

19 And then from there, I
20 kind of worked out some ways that this
21 system could benefit -- that such a system
22 could benefit Emerald.

23 Q. Okay. And I'm looking at a
24 January 15, 2020, transcript.

1 A. Uh-huh.

2 Q. It's the questioning of Mr. Twait.

3 The question was asked --
4 and I believe this was Mr. Dimond's question --

5 MR. DIMOND: Can you point me
6 to a page?

7 MR. GRADELESS: Yes, 103, Lines
8 11 through 18.

9 MR. DIMOND: Thank you.

10 BY MR. GRADELESS:

11 Q. And the question with Mr. Dimond
12 asked of Mr. Twait was, "Later on down in
13 that description one, two, three, four,
14 five -- I think it's the sixth line down
15 if my count is right, it says install baffles
16 in the final clarifiers and tipping buckets
17 and new rears in the wet weather flow
18 clarifiers, replace pumps and adjustable
19 frequency drives on the return activated
20 and waste activated sludge pump stations."

21 Do you recall if that statement
22 triggered your memory?

23 A. Yes. In particular, it was -- it
24 was just kind of another reminder that -- of

1 that system and how it could work and that
2 ExxonMobil used the system as well and that
3 it could very well be -- it should definitely
4 be studied for this type of treatment that is
5 required.

6 **Q. Now, why aren't you designing the**
7 **system for Emerald?**

8 A. I work here. My job is to take
9 their permit applications and make sure
10 that they're correct and write a permit.

11 **Q. Now, you also mentioned the --**
12 **a similar architecture firm or engineering**
13 **firm.**

14 **What do you know about**
15 **that?**

16 A. Yes. The same engineering firm
17 that did ExxonMobil's -- their big treatment
18 upgrade in 2007 was also used by Citgo and
19 that they used a -- a very similar baffle
20 system.

21 **Q. And what was the engineering firm?**

22 A. It was Huff & Huff.

23 **Q. Let me take off a few easy -- easy**
24 **ones for you.**

1 A. Uh-huh.

2 Q. On cross-examination, you discussed
3 Recommendation 1 where the Agency wrote due to
4 conceded changes within the petitioner's MBDS
5 process since fall of 2018, looking at that
6 now I -- I don't think I heard it, but looking
7 at the MBDS, why is it MBDS is in there and do
8 you have any explanation for that?

9 A. I'm not sure. It was either
10 a typo or we had just simply mixed up
11 two processes.

12 Q. Okay. One of their processes is
13 known as MBTS?

14 A. I think so.

15 Q. I'm sorry. BBTS?

16 A. BBTS.

17 Q. I'm already making another mistake.

18 Okay. So you were -- when
19 you signed the certification, you were just
20 intentionally lying about that?

21 A. Of course not.

22 Q. Okay. There was a lot of talk
23 about this phrase you used, Mark, full
24 production?

1 A. Uh-huh.

2 Q. And I want to read a part of
3 the transcript on January 14th. It was
4 Mr. Hathcock's testimony. I will give
5 you the page. It's Pages 37 and 38, and
6 the last line of 36.

7 The question was posed to
8 Mr. Hathcock, "What's the product that uses
9 a lot of MBT?" The answer was "BBTS."

10 Line 21 on Page 37, "Was
11 the production of BBTS higher in 2018 than
12 it was in 2017?" Mr. Hathcock testified,
13 "Yes, it was." And the answer (sic) was
14 given "Was 2018 a record year for the level
15 of production of BBTS?" And Mr. Hathcock's
16 answer was, "Yes, it was."

17 Do you recall that testimony
18 in any way?

19 A. Yes. I recall him testifying about
20 that.

21 Q. Do you know whether or not that
22 might have been what was in your mind when
23 you were testifying about this concept of
24 full production?

1 A. Yes.

2 Q. Okay. Was that -- do you recall
3 that that was in your mind or you don't
4 know? I'm just --

5 A. Yes. It was in my mind. He had
6 said that BBTS was the highest amount and
7 he had also said that most of the MBT came
8 from that. So...

9 Q. Okay. You weren't trying to be
10 deceitful when you said the words full
11 production, were you?

12 A. No.

13 Q. There was some talk about how load
14 was calculated in the Citgo permanent.

15 Do you remember those lines
16 of questioning?

17 A. Yes.

18 Q. Was this Citgo -- that was in the
19 context of NPDES permit; is that right?

20 A. Yes.

21 Q. It wasn't in the context of an
22 adjustment standard, right?

23 A. No.

24 Q. Okay. And actually we're here for

1 the adjusted standard?

2 A. Yes.

3 Q. Now, I'm looking at Page 183 on
4 the January 15th testimony. This is you
5 testifying, Mr. Liska. And I believe you
6 are being asked questions from me.

7 MR. DIMOND: I'm sorry. What
8 page?

9 MR. GRADELESS: We are at Page 183.

10 BY MR. GRADELESS:

11 Q. And I asked the imprecise question
12 of "I thought September 2018 was the highest
13 production." And you answered, "That's --
14 that's what I thought. I had heard it in
15 the last two days, yes."

16 Then I go on to ask you,
17 "And you've seen no numbers higher since
18 April 2014, higher than 553 pounds per day?"

19 Is that a question I asked
20 you?

21 A. (Witness nodded.)

22 Q. And you responded, "I've seen no
23 numbers higher than that on the DMRs"?

24 A. Correct.

1 Q. So we were actually looking at
2 April -- the end of April 2014?

3 A. Yes.

4 Q. Is that correct in your testimony?

5 A. Yes.

6 Q. Okay. It wasn't all of 2014?

7 A. Correct.

8 Q. All right. I'm looking at Page 195
9 of the hearing transcript.

10 MR. DIMOND: You said 185?

11 MR. GRADELESS: Oh, 195.

12 BY MR. GRADELESS:

13 Q. Do you remember talking about
14 Recommendation 3(c) with respect to
15 investigating and providing the Agency
16 with how much treatment capacity the
17 Petitioner needs prior to and following
18 the secondary clarifier?

19 A. Yes.

20 Q. Okay. And there's -- there was
21 part of that was left out and we referred
22 to it -- guess, well, we kind of skipped
23 over it with the blah, blah, blah.

24 But "Further, Petitioner

1 must reconfigure its current treatment
2 system, example, with low cost, economically
3 reasonable piping, and bioreactor tanks to
4 treat the effluent after the secondary
5 clarifier to achieve nitrification."

6 Then you were asked, "Were
7 you involved in that recommendation?" And
8 you responded, "Yes."

9 Do you remember that?

10 A. Yes.

11 Q. Okay. Now, I understand that we
12 now believe that perhaps 90 days to actually
13 reconfigure the entire biotreater system now
14 believed here on February 3, 2020, that might
15 be a little unreasonable timing, right?

16 A. Right.

17 Q. Would it still be your belief that
18 a low cost economically reasonable piping to
19 utilize or reuse the biotreaters should be
20 looked at?

21 A. Yes.

22 Q. Okay. You talked about a -- I guess
23 a hypothetical -- a hypothetical situation. I
24 believe you suggested an amount was a \$5 million

1 tertiary nitrification, as an example.

2 Do you vaguely remember that
3 from a few hours ago?

4 A. Yes.

5 Q. And then it was comparing -- you were
6 asked to compare it between a \$1 million
7 alternative.

8 A. Yes.

9 Q. And you said that you should use
10 common sense.

11 Do you remember that --

12 A. Yes.

13 Q. -- in determining -- and would
14 that -- I guess what did you mean by that
15 in terms of treating the Petitioner's
16 effluent at the end of a pipe?

17 A. Well, I -- I don't think his example
18 gave capital versus operating costs. I think
19 he just threw numbers without -- either that
20 or how far -- you know, how many years it would
21 be over. So, yeah.

22 Q. Well, are end of the pipe solutions
23 the only options for the Petitioner?

24 A. No. They can do -- they can change

1 their production process as well.

2 MR. DIMOND: Objection, lack of
3 foundation.

4 HEARING OFFICER WEBB: Specifically?

5 MR. DIMOND: There's no showing
6 that this witness has any idea how the Emerald
7 plant operates and what he -- you know, he
8 doesn't have any expertise to testify about
9 what can or what cannot be changed at this
10 plant.

11 MR. GRADELESS: Mr. Liska --

12 MR. DIMOND: Having a degree in
13 chemical engineering doesn't mean that you
14 are an expert in how to run a plant.

15 HEARING OFFICER WEBB: Well, he's
16 an en- -- he can give his opinion.

17 BY MR. GRADELESS:

18 **Q. Mr. Liska, you were saying about**
19 **the internal processes has a potential solution?**

20 A. I can say very generally that you --
21 as far as eliminating a perimeter, you can
22 either eliminate it in the production itself
23 or you can -- if you can't eliminate it or
24 eliminate it enough at least, you can treat

1 it so that in either case, you would be
2 eliminating it.

3 Q. And that's what the Petitioner came
4 into the Agency and told you in the summer,
5 right?

6 A. Right.

7 Q. That they were looking at their
8 internal process?

9 A. Right. To try to eliminate MBT
10 before it went into their treatment plant.

11 Q. And that was by changing the
12 processes for the BBTS production?

13 A. Yes.

14 Q. Thank you.

15 And you have not received
16 any plans to reduce any of the other processes
17 in production?

18 A. No, we have not.

19 Q. But they've submitted to you end of
20 the pipe alternatives?

21 A. Right.

22 Q. On the other hand, they're saying
23 they don't want to do end of the pipe
24 alternatives?

1 A. Right.

2 Q. They want to do the internal
3 improvements, is that your understanding?

4 A. Yes. They've -- they wanted to
5 try to eliminate it in their process.

6 Q. Have you received any cost
7 estimates for internal process improvements?

8 A. No.

9 Q. Have you received any proposals
10 with respect to internal process improvements?

11 A. No.

12 Q. Have you received any plans with
13 respect to internal process improvements?

14 A. No.

15 Q. Is it your job to create internal
16 process improvements for the Petitioner?

17 A. No.

18 Q. Do you think that would -- that
19 could change your recommendation if you were
20 to see internal process improvements?

21 A. Our recommendation --

22 Q. Or proposed? I'm sorry.

23 A. It's possible that it could. We --
24 we want to see all proposals as far as either

1 eliminating it in the production or treatments.
2 We -- we've asked for both over each adjustment
3 standard.

4 Q. Have you seen a situation where an
5 industry would improve a process and provide
6 some sort of treatment?

7 A. Yes.

8 Q. Okay. Would that be something that
9 would be acceptable in this case?

10 A. Yes, definitely.

11 Q. Okay. Why do you think that?

12 A. We would like to see the ammonia
13 limit of 304.122(b). We will take an all
14 above -- all of the above approach whether
15 it's both process or treatment.

16 We just want to see that
17 the limit is met and that the uses of the
18 stream and everything is -- that works.

19 Again, we've -- through
20 each and every adjusted standard, we have
21 asked both on the process and treatment
22 side to see if they can do something.

23 Q. Okay. All right. Now, there
24 was a little bit of talk about one of your

1 examples in the hearing. It was the \$50
2 for the -- comparing that to one pound of
3 the parameter.

4 Do you remember that?

5 A. Yes.

6 Q. And I want to -- I don't think
7 I want to have this be an exhibit, but I'm
8 handing you the Petitioner's NPDES permit,
9 if I may?

10 (Document tendered
11 to the witness.)

12 BY THE WITNESS:

13 A. Okay.

14 BY MR. GRADELESS:

15 Q. Mr. Liska, that's the Petitioner's
16 MBDS permit; is that right?

17 A. Yes. This is their current MBDS
18 permit.

19 Q. Okay. Now, I'm trying to figure
20 out how extreme your example remark is.

21 Looking at Page 2 of the
22 MBDS permit, I see, for example, Chlorobenzene.

23 A. Chlorobenzene, yes.

24 Q. That .097.

1 A. Yes, 0.97 pounds per day is their
2 30-day average load limit.

3 **Q. So can you describe then how extreme**
4 **your example was given that this NPDES permit**
5 **has a parameter that is .097?**

6 A. Sure. Sure. I -- I may have --
7 well, I did mention that it might have been
8 an extreme example previously prior to lunch.
9 After having some time to think about it and
10 kind of digest it, I found that it really
11 isn't an extreme example at all.

12 My example was \$50 -- was --
13 was basically to treat one pound of -- per
14 day of any constituents.

15 But in the case of their
16 permit, they have roughly 50, 55 chemicals
17 here that they are required to treat for
18 that are anywhere from -- the highest ones
19 of these are 0.1, 0.2 pounds, going all
20 the way down to less than 0.1 pounds, less
21 than a tenth of a pound.

22 If -- if it were not ammonia
23 and if it were one of these chemicals that
24 they are required through 40 CFR 414 to treat

1 for, my example of one pound per day would
2 actually be much -- be too high. They would
3 need to treat far less than a pound per day.

4 Q. Okay. So I guess sometime at lunch
5 you went and looked at their MBDS?

6 A. Yes.

7 Q. Okay. I didn't tell you to go do
8 that, did I?

9 A. Yes.

10 Q. I didn't tell you to come here and
11 testify about it, did I?

12 A. Nope. It kinda hit me during lunch
13 that we have numbers all -- all the time that
14 are less than one as far as loads.

15 Q. Now, do you know if these parameters
16 are meeting 40 CFR 414 parameters?

17 A. Yes. All -- all of the ones starting
18 from Acenaphthylene at Outfall A01 all the way
19 through those three pages ending with vinyl
20 chloride, those are all under 40 CFR 414 federal
21 regulations.

22 Q. Okay. Okay.

23 A. Since they have to meet those
24 regulations at far less than one, my example

1 of 50 -- less than one pound a day for
2 everything else isn't far-fetched at all.

3 Q. Okay. I don't know. You said the
4 word extreme, Mark.

5 A. I should've had lunch. I should've
6 been asked after lunch.

7 Q. Now, you were involved in the last
8 adjustment standard case with the Petitioner;
9 is that fair?

10 A. Yes.

11 Q. Okay. And you recall at that time
12 they had -- at that time the Petitioner had
13 two biotreaters in operation?

14 A. Yes.

15 (Whereupon, the Chicago
16 videoconference connection
17 has ended.)

18 BY MR. GRADELESS:

19 Q. And that was back in -- when was
20 that, the last adjusted standard?

21 A. Right.

22 Q. All right. Now, the Petitioner
23 only has one tank in operation; is that
24 correct?

1 A. Correct.

2 Q. All right. Now, what is the
3 Petitioner using now to back up their
4 system?

5 A. I don't know.

6 Q. Okay. So is this the first time
7 in your experience that you have heard
8 there were plans to now backup their system?

9 A. It's -- usually it's -- for backup
10 of a system, they will either put it on a
11 schedule so that they can have some sort of
12 treatments in the meantime while they're
13 doing it.

14 A lot of times, they will
15 rent out extra tankage, bring in extra
16 tankage as a rental to run their system.

17 Q. Let me back up.

18 A. Okay.

19 Q. I'm not -- I'm just talking about this
20 Petitioner.

21 A. Oh, okay.

22 Q. So have you -- is there any time
23 that you've heard of between the last
24 adjusted standard and this adjusted

1 **standard that there was this new plan**
2 **to back up their system?**

3 A. They mentioned it at that June
4 meeting that they needed to get them --
5 get their new -- the other three going
6 as a backup.

7 Q. Okay. And that served as the
8 basis for the Agency's recommendation,
9 didn't it?

10 A. Right.

11 Q. Okay. As far as you know, they --
12 you don't know one way or another what
13 they -- the Petitioner uses to back up its
14 system now?

15 A. I don't know.

16 Q. If any?

17 A. Correct.

18 Q. And you also mentioned the idea
19 of tankage rental.

20 Have -- have you seen that
21 before?

22 A. Yes.

23 Q. In what context?

24 A. Usually when the permittee wants

1 to either temporarily add more production,
2 but usually it's while they're doing
3 maintenance on some of their treatment
4 systems.

5 **Q. And how would they provide the**
6 **rental tankage? I -- I don't understand.**

7 A. They hire a third party to bring
8 that in. The -- the actual systems are
9 usually owned by third parties and they
10 rent it from them.

11 **Q. Okay. And you say they bring it**
12 **in on a skid?**

13 A. Yeah. They'll bring it in on
14 trucks and skids and whatnot and just hook
15 it up to the system that they have and
16 bypass it.

17 **Q. And that's typically done to back**
18 **up a system when they're conducting their**
19 **maintenance?**

20 A. Yes.

21 **Q. Okay. Let me clear up another small**
22 **item. Just a second.**

23 **(Brief pause.)**

24

1 BY MR. GRADELESS:

2 Q. Okay. I wanted to clear up something
3 asked very early on, Mr. Liska.

4 In your deposition, you were
5 specifically asked are you familiar with the
6 regulations at 35 Illinois Administrative Code
7 370.920 and 370.1210 and the ten state standards
8 for growing, nitrifying or ammonia degree in
9 bacteria and you testified, "No, I'm not,"
10 right?

11 A. Correct.

12 Q. Okay. Now, in the hearing, I was
13 a little less specific. I asked, "Are you
14 familiar with any design standards in 35
15 Illinois Admin Code 370? And you said, "I
16 am familiar with them, yes."

17 "Question: What are those?"

18 "Answer: Those are standards
19 for sewer works."

20 Do you remember giving that --

21 A. Yes.

22 Q. Okay. So at the time of your
23 deposition in December of 2019, you weren't
24 familiar with those specific citations that

1 **were asked of you; is that fair?**

2 A. Correct. I didn't have -- I didn't
3 have the -- specifically what that citation was
4 memorized.

5 Q. I didn't tell you to memorize
6 it and provide that at the hearing, did I?

7 A. No.

8 Q. Okay. Let the record reflect
9 that I'm approaching the witness with what
10 has been previously marked for identification
11 as State's Exhibit No. 20.

12 Mark, what is that?

13 (Document tendered
14 to the witness.)

15 BY THE WITNESS:

16 A. Is this is ExxonMobil's state
17 construction permit to construct a hydrogen
18 peroxide injection system.

19 BY MR. GRADELESS:

20 Q. Okay. And I believe this is
21 cross-examination?

22 A. Yes.

23 Q. Okay. And this permit number is
24 2007-EN-3753; is that right?

1 A. Yes.

2 Q. This a fair and accurate copy of
3 this permit when you last saw it?

4 A. Yes.

5 Q. This permit is permitting
6 hydrogen peroxide tank to treat the process
7 in ExxonMobil, is that fair to say?

8 A. Yes.

9 Q. You also mentioned that it is
10 intended to treat sulfides?

11 A. Yes.

12 Q. And how would that be relevant
13 to the Petitioner? Let me back up.

14 Does MBT contain sulfite?

15 A. Yes.

16 Q. Okay. And so why would -- if you
17 know, why would ExxonMobil be constructing
18 hydrogen peroxide tank within its treatment?

19 MR. DIMOND: Objection, foundation.

20 HEARING OFFICER WEBB: With respect
21 to?

22 MR. DIMOND: No indication that he
23 knows what ExxonMobil's intent was.

24 MR. GRADELESS: I think he testified

1 about that earlier though.

2 THE WITNESS: I wrote the permit.

3 MR. GRADELESS: Yes. He wrote the
4 permit.

5 You wrote this, Mark, right?

6 THE WITNESS: Yes.

7 MR. GRADELESS: What was -- he's the
8 expert. He wrote that.

9 HEARING OFFICER WEBB: Go ahead
10 and answer.

11 MR. DIMOND: Well, if you're asking
12 if he wrote the permit, that's one thing. If
13 you're asking what ExxonMobil's intent was, I
14 don't know how he would know what ExxonMobil's
15 intent was unless he can somehow reach into the
16 corporate mind.

17 HEARING OFFICER WEBB: What was
18 the application for?

19 Is that what you're asking?

20 What are you asking?

21 BY MR. GRADELESS:

22 Q. What's the purpose of this permit,
23 Mark?

24 A. ExxonMobil was required, under

1 our --- underneath adjusted standard 97.28.
2 They needed to put in a system that will
3 treat sulfides. They came up with this
4 hydrogen peroxide system. They sent us a
5 permit for the construction of it that
6 showed exactly how it would -- how the
7 hydrogen peroxide would react with sulfide
8 chemicals and exactly how the reaction would
9 run within it.

10 From there, we made -- ran
11 through the construction permit and we permitted
12 it.

13 MR. GRADELESS: Okay. At this
14 time the State moves into evidence State's
15 Exhibit 20.

16 MR. DIMOND: We object to the
17 relevance of it.

18 MR. GRADELESS: Do you want me
19 to respond?

20 HEARING OFFICER WEBB: What's that?

21 MR. GRADELESS: Do you want me to
22 respond?

23 HEARING OFFICER WEBB: Yes. Please
24 do.

1 MR. GRADELESS: The deposition,
2 which is already into evidence, of Mark Winters
3 testified that MBT is oxidized by hydrogen
4 peroxide. This removes the MBT into a similar
5 system in the Petitioner's wastewater treatment
6 system and could provide the removal of the
7 MBT.

8 MR. DIMOND: Well, that may --
9 the state may consider that testimony
10 relevant, but that doesn't show how a
11 hydrogen peroxide that ExxonMobil -- a
12 hydrogen peroxide system ExxonMobil thought
13 was effective at its facility would be
14 effective at Emerald's facility.

15 Those are two separate
16 things. I don't think you can use one to
17 justify the relevance of the other.

18 MR. GRADELESS: If I may respond
19 just for the record.

20 HEARING OFFICER WEBB: Sure.

21 MR. GRADELESS: This is something
22 that the Petitioner should consider. I believe
23 their own witness testified -- and again it was
24 a deposition that was admitted in so it's in

1 evidence already.

2 The hydrogen peroxide
3 oxidizes MBT. This witness has testified
4 that MBT is a sulfide, that ExxonMobil
5 applied hydrogen peroxide to another sulfide
6 allowing it to no longer inhibit the
7 nitrification within ExxonMobil's system.

8 This can treat Petitioner's
9 wastewater system.

10 HEARING OFFICER WEBB: Well, I'm
11 going to admit it. It might be helpful.

12 BY MR. GRADELESS:

13 **Q. Mark, what was -- what might be**
14 **the relevance then with the hydrogen peroxide**
15 **tank?**

16 A. Again, it was -- it was required
17 under their adjusted standards to treat for
18 sulfides. They came up with this system,
19 which we permitted. It does treat sulfides.
20 We know that MBT is a sulfide and that it
21 is -- it could be possible that this could
22 treat it.

23 **Q. Okay. Nonetheless, this type of**
24 **internal process treatment is something that**

1 **the Agency has permitted?**

2 A. Correct.

3 MR. GRADELESS: Let the record
4 reflect that I'm showing the witness State's
5 Exhibit 19.

6 This is a scientific periodical
7 on the removal of MBT from water. It's soybean
8 peroxidase-catalyzed, a study conducted in 2010.
9 It was published in Water Environment Research,
10 Volume 18, Copyright 2010. The state moves
11 it into evidence under the Ford's Evidentiary
12 Rules Under Scientific Periodicals and
13 Publications, which I don't have that rule
14 of evidence in front of me, but I'm looking
15 for it. We move into evidence State's
16 Exhibit 19.

17 MR. DIMOND: I'm not familiar
18 with the rule that Mr. Gradeless has cited.

19 Is Mr. Gradeless saying
20 that every scientific article comes into
21 relevance or comes into evidence regardless
22 of whether it's relevant or not and you
23 don't have to authenticate it?

24 There has been no testimony

1 authenticating this article. So I -- I'm
2 just -- maybe we ought to at least --

3 MR. GRADELESS: Mr. Gradeless
4 would you like to authenticate the article?

5 MR. DIMOND: We at least ought to
6 have the witness authenticate the article
7 first before we start moving it into evidence.

8 MR. GRADELESS: Sure. I'm trying
9 to find that rule again.

10 (Brief pause.)

11 MR. GRADELESS: Here, it is.

12 Specifically, Section
13 101.626 of the information produced at
14 hearing of the Board's procedural rules,
15 letter C, Scientific Articles and Treatises,
16 "Relevant scientific or technical articles,
17 treatises or materials may be introduced
18 into evidence by a party. Materials are
19 subject to reputation or disputation through
20 introduction of documentary evidence for
21 expert testimony."

22 So that's the rule in
23 which we are seeking to admit this article.

24 MR. DIMOND: Well, I -- I

1 heard in the rule that it has to be relevant.
2 We still haven't had any authentication of --
3 of the exhibit. So --

4 HEARING OFFICER WEBB: Of where
5 it came from?

6 MR. DIMOND: Where -- you know,
7 where it came from, how it was found, when
8 it was found, who found it. We haven't had
9 any authentication -- any -- we haven't had
10 any testimony about it or that it's the
11 complete article.

12 So I just -- I think we
13 ought to have some testimony about that
14 before its -- its admission is moot.

15 HEARING OFFICER WEBB: Additional
16 information about the publication?

17 MR. DIMOND: Yes.

18 HEARING OFFICER WEBB: Can you do
19 that?

20 BY MR. GRADELESS:

21 **Q. Mr. Liska, at the bottom, I believe**
22 **it says, "Water Environmental Research, Volume**
23 **82, Copyright 2010, Water Environment**
24 **Federation."**

1 **Did I read that correctly?**

2 A. Yes.

3 **Q. And the article publish date was**
4 **1/7/2010?**

5 A. Yes.

6 **Q. Is that right?**

7 A. (Witness nodded.)

8 **Q. Okay. I will submit -- well, I've**
9 **sent you this article, is that fair to say,**
10 **Mark?**

11 A. Yes.

12 **Q. Okay. And did you ever have an**
13 **opportunity to glance over it or learn**
14 **anything from this article?**

15 A. Yes. I read through the article.

16 **Q. Okay. And this article indicates**
17 **that --**

18 MR. DIMOND: I'm going to object
19 to Mr. Gradeless testifying about what the
20 article says.

21 If he wants to ask the
22 ques- -- the witness a question about the
23 witness's understanding of the article,
24 that's fine. He started into this process

1 to sort of to try to authenticate the article
2 and instead of the witness testifying about
3 it, Mr. Gradeless testified about it.

4 May I be allowed to ask some
5 questions just to figure out sort of the basis
6 of this document?

7 MR. GRADELESS: This is my witness.
8 I mean --

9 HEARING OFFICER WEBB: You want to
10 voir dire about this article?

11 MR. DIMOND: Yes.

12 MR. GRADELESS: I'm telling you I've
13 sent this to Mark. I --

14 HEARING OFFICER WEBB: Well, can
15 he finish his questioning about it?

16 Are you objecting to the
17 leading nature versus the --

18 MR. DIMOND: Well, for the next --
19 what the next question sounded like, I think
20 I was going to object to leading.

21 You know, look, leading on
22 some small things is fine, but when you're
23 leading a witness as to what the article
24 says, Mr. Liska is -- you know, the Board

1 has accepted him as sort of an --

2 MR. GRADELESS: He is wasting time.

3 MR. DIMOND: -- you know, the
4 hearing officer has said that they consider
5 him to be the senior Agency official and
6 they've accepted a bunch of opinion testimony
7 from him.

8 If he's -- if Mr. Liska
9 has an opinion based on this article, then
10 he ought to express it, but he shouldn't
11 need Mr. Gradeless to put the opinion in
12 his mouth.

13 MR. GRADELESS: Okay.

14 HEARING OFFICER WEBB: Well, you
15 can ask the question again, but I do want
16 to let you know that our chief scientist
17 has already highlighted half of this
18 article. So it's not looking good for you.

19 Go ahead.

20 MR. GRADELESS: Way to go, way
21 to go.

22 BY MR. GRADELESS:

23 Q. Okay. Mark, did you find this
24 article -- where did you find this article?

1 A. You gave it to me.

2 Q. Thank you.

3 And when did I give it to
4 you?

5 A. In the last two weeks.

6 Q. Okay. Did you read it?

7 A. Yes.

8 Q. You did?

9 A. Yes.

10 Q. Okay. What, if anything, did you
11 read about?

12 A. It talks about using particular
13 soybean-based chemical to react with MBT
14 and...

15 Q. Do you need water, Mark?

16 A. Yeah. I've got some.

17 And to treat for it, convert
18 it to lesser chemicals -- smaller chemicals.

19 Q. I appreciate that for my edification.

20 A. Okay.

21 Q. All right. And it's -- the title
22 says to remove the MBT from the water; is that
23 right?

24 A. Right. That's basically what I mean.

1 It's -- it's going to be broken down into other
2 smaller things and no longer be MBT so it's
3 in affect removing it.

4 Q. Is the MBT in the Petitioner's waste
5 stream in water?

6 A. Yes.

7 Q. Okay. I'm looking at Page 2.

8 At the bottom, I'm looking at the paragraph
9 entitled, "Optimum Hydrogen
10 Peroxide-to-Substrate Ratio."

11 Do you see that paragraph,
12 Mark?

13 A. Yes.

14 Q. That first line says "MBT known
15 to be oxidized by hydrogen peroxide alone."

16 A. Yes.

17 Q. Is that something that's similar
18 to what was done in ExxonMobil?

19 A. Yes.

20 MR. DIMOND: Objection, relevance.
21 I just want to have a continuing objection to
22 this document or any testimony about it.

23 HEARING OFFICER WEBB: Okay.

24 Overruled. Go ahead.

1 MR. GRADELESS: At this time
2 the state moves into evidence State's Exhibit
3 19.

4 MR. DIMOND: And we object as to
5 relevance.

6 HEARING OFFICER WEBB: Exhibit 19
7 is admitted.

8 (State's Exhibit No. 19 was
9 admitted into evidence.)

10 BY MR. GRADELESS:

11 Q. Mark, on the introduction portion of
12 this scientific article, it says, "MBT is a
13 heterocyclic aromatic compound produced in
14 large amounts for various industries."

15 Did I read that right?

16 A. Yes.

17 Q. Is that the MBT that the Petitioner
18 uses?

19 A. Yes.

20 Q. Okay. It goes on to say, "MBT is
21 toxic. Therefore, its release to the
22 environment is regulated."

23 Did I read that correctly?

24 MR. DIMOND: Is Mr. Gradeless

1 just going to read the entire document?

2 If he's got a question
3 about an opinion based on the document,
4 fine, but I don't understand why we're
5 just reading the document.

6 MR. GRADELESS: I haven't asked
7 a question yet, but I'm just directing --
8 I'm just directing Mr. Liska's attention to
9 portions of the document. It's hard for me
10 to do that without actually reading what's
11 on the sheet of paper, but I could --

12 MR. DIMOND: A better way to do --

13 MR. GRADELESS: Well, I understand.
14 This is the way I'm going to do it and I need
15 to direct Mr. Liska to that sentence.

16 MR. DIMOND: The more appropriate
17 way to ask a question about a supposed expert
18 or a person who has been allowed to testify
19 about an expert is to allow the expert as
20 to their opinion and let the expert testify
21 as to their opinion rather than leading
22 them.

23 HEARING OFFICER WEBB: Well, I
24 trust we're getting there.

1 Are we not?

2 MR. GRADELESS: Next question.

3 Trying to.

4 HEARING OFFICER WEBB: Okay. Go
5 ahead.

6 MR. GRADELESS: Okay.

7 BY MR. GRADELESS:

8 Q. Okay. Mr. Liska, that second
9 sentence, "Its release to the environment
10 is regulated;" is that right?

11 A. Yes.

12 Q. Okay. Do you know if MBT is toxic?

13 MR. DIMOND: Objection, foundation.

14 HEARING OFFICER WEBB: Overruled.

15 BY THE WITNESS:

16 A. I know that it -- its causing the
17 nitrification problems and that the ammonia
18 released is toxic.

19 BY MR. GRADELESS:

20 Q. Okay. All right. Thank you, Mark.

21 Mark, you're the one that
22 brought the ExxonMobil hydrogen peroxide
23 article -- you gave that to me, right?

24 A. Correct.

1 **Q. Okay. After reading this article,**
2 **State's Exhibit 19, do you reach any**
3 **conclusions that are different than you**
4 **didn't have before?**

5 A. It -- from what I've seen from it,
6 both this chemical and hydrogen peroxide
7 itself should definitely be tested to see
8 if they can help in the treatment for MBT
9 at their wastewater treatment plant.

10 **Q. Okay. To your knowledge, have you**
11 **received any kind of plans to test hydrogen**
12 **peroxide in the Emerald facility?**

13 A. No.

14 MR. DIMOND: Objection, relevance.

15 MR. GRADELESS: I'm sorry, Mark.

16 I --

17 HEARING OFFICER WEBB: I'm sorry.

18 I didn't hear what you said.

19 At what facility?

20 MR. GRADELESS: At the petitioner's
21 facility.

22 THE COURT REPORTER: Could you
23 please keep your voice up? It's very difficult
24 for all of us to hear you.

1 MR. GRADELESS: Okay.

2 HEARING OFFICER WEBB: I'm sorry.

3 Could you read back the question?

4 (Whereupon, the requested
5 portion of the record was
6 read accordingly.)

7 HEARING OFFICER WEBB: Overruled.

8 BY MR. GRADELESS:

9 Q. Okay. I just want to clarify a small
10 point, Mark.

11 You don't have a law degree?

12 A. No.

13 Q. You are better off for it.

14 Now, Mark, we've heard multiple
15 ways of -- in this case, you heard multiple ways
16 of treating the effluent at the Petitioner's
17 facility?

18 A. Uh-huh.

19 Q. On both -- twice -- two days in Lacon
20 and you were asked questions about it today.

21 What's kind of the next
22 step then for the Petitioner in your view?

23 MR. DIMOND: Objection, that's
24 vague.

1 HEARING OFFICER WEBB: Next step
2 towards?

3 MR. GRADELESS: Towards what
4 would be reasonable for the Petitioner to
5 consider going forward after these -- let me
6 rephrase. Okay?

7 HEARING OFFICER WEBB: Okay.

8 MR. GRADELESS: It's late. I'm
9 sorry.

10 BY MR. GRADELESS:

11 Q. Mark, you've heard multiple ways
12 of -- of alternatives used to potentially
13 treat the ammonia at the Petitioner's Henry
14 facility.

15 Given that the Petitioner
16 has produced multiple end of pipe potential
17 solutions, some they believe are technically
18 feasible and some they believe are not.

19 Is that your understanding?

20 A. Yes.

21 Q. Okay. Now, what would be the next
22 step in your view for the Petitioner in
23 considering how to solve their ammonia
24 limits?

1 A. Well, again we've heard a lot
2 from everything. I think the difference
3 between the last adjusted standard and
4 this adjusted standard is that we do have
5 kind of a wealth of new information.

6 We know that there is a
7 possibility of process changes that can
8 lower the amount of MBT before it even gets
9 into the system. This is brand new. No
10 adjusted standard before that said that.

11 Every single one of them
12 said there is nothing we can do with the
13 process. We can't limit MBT going to the
14 treatment plant.

15 From there, we've learned
16 that another -- another problem was that the
17 Petitioner couldn't reliably get MBT out of
18 their secondary clarifier, but it looks like
19 they have been able to do that through the
20 last many months of their DMR data and that
21 between process improvements and other
22 improvements, they have been able to do that.

23 That's a big step in being
24 able to nitrify. It doesn't matter -- a lot

1 of times it doesn't matter if you can only
2 get it done most of the time, but it looks
3 like we have a way of doing it all of the
4 time.

5 From there, now we just
6 need to figure out a way -- we know that
7 if we can reliably get it gone past the
8 secondary clarifier, what can we do next?

9 We have a wealth of
10 options. There's several different ways
11 we can configure equipment that we already
12 have. It's not even the thing that we have
13 to put in this giant thing that is going
14 to cost a lot of money.

15 A lot of the capital cost
16 is already there and just has to be reworked
17 or tweaked in some cases. There's several
18 options you can go by. There's probably
19 more than I haven't thought of.

20 I used the -- the baffle
21 system. I know it's a very flexible system
22 because you can use it in many different
23 ways. In my opinion, here, flexibility is
24 key.

1 They have -- the -- from all
2 the different products they make to different
3 problems here and there that they have with
4 their treatment plants, we know that granulated
5 activated carbon could probably work. Will
6 it work at the one spot that they said it
7 would? Yeah, that would cost a lot of money.

8 Have they -- but have they
9 looked at it to just using it in certain
10 spots or maybe just at certain times. You
11 could have a system that works all -- a big
12 system that works all the time. Yeah, that's
13 going to cost a lot of money, but now if we
14 only have a system that's smaller, but only
15 has to work for one or two of the products,
16 well, now our operating costs just went down
17 a whole bunch because we don't have to use
18 extra granulated activated carbon or any other
19 system that we've said here.

20 We're almost at the -- we
21 almost have the problem that we had two ways
22 to do it. And I can see them needing time
23 to go over each of these steps. Yes, it
24 will take time to go over each of their

1 ten or so products and each one of those
2 is going to have a slight difference to it.

3 Yes, there's several different
4 ways to run the four tanks that they have once
5 we get them running, but that's what all --
6 that's what we're all here for. That's why
7 we have to kind of put in the nitty-gritty work
8 of it.

9 They've testified some things.
10 They've found knew things that work that no one
11 else has found from. From here, I think we see
12 a light at the end of the tunnel. It looks
13 like they can minimize it. Maybe they can even
14 minimize it and not have to put any new
15 treatment in. We just don't have the data, but
16 they started working on it and that's fantastic.

17 We're very happy with how much
18 this new company has worked on that so far. So
19 maybe they don't even need treatment -- new
20 treatment and can eliminate it there.

21 If they can't, maybe a more
22 flexible system of what they have. At worst,
23 they need to get all four of their biotreaters
24 working so they can have that flexibility.

1 If it's something that they still now and then
2 need to treat for MBT, granulated carbon,
3 maybe this hydrogen peroxide system can
4 be used either all the time or at certain
5 spots.

6 We just have a wealth of
7 new information since the last adjusted
8 standard that we should -- that we should
9 definitely be looking at.

10 That's what our adjusted
11 standard petition was for. It was saying
12 that this is what we calculated that they
13 can already do. So these are the limits
14 according to their data. This is -- they've
15 looked at some things, great. Here's a few
16 others that we can look at. Let's have a
17 plan over the next few years to finally fix
18 it.

19 **Q. And, Mark, how many times do you**
20 **remember -- if you know, from the last**
21 **adjusted standard until today, have you --**
22 **have you actually been able to sit down**
23 **and meet with the Petitioner and representatives**
24 **from the Petitioner?**

1 A. Just at the June 2019 meeting.
2 Prior -- the company that owned that prior
3 to the new owner, I'll admit they were pretty
4 hostile to this whole system of adjusted
5 standards and everything and we were not
6 in a position to talk with them openly.

7 What's going on now so far
8 has been fantastic with them, how they can
9 work with different systems and how they're
10 giving us knew data that we haven't been
11 able to get before.

12 So we think this can work.
13 We think we can talk with them as often as
14 they'd like so that we can, you know, tweak
15 systems -- you know tweak what we need, what
16 we're looking for more than once every five
17 years just to say whether they've done it or
18 not. We think that a lot can be done in the
19 next five years.

20 **Q. And is it fair to say that, I guess,**
21 **the tone of that meeting was substantially**
22 **different than the meetings that -- the one**
23 **in the summer of this year -- I'm sorry --**
24 **the summer of last year, the tone of that**

1 **meeting was a lot different than you've ever**
2 **experience with this permittee?**

3 A. Yes. We did meet with them once
4 prior to the previous petition for this one
5 and again, we got mostly stonewalling. No,
6 we can't make any process changes. No, none
7 of that's going to work. No, our system can't
8 be refigured this way or that way. We got very
9 little data from them. We got very little
10 effort from them.

11 Q. When you say -- when you say "new
12 owner," do you mean -- do you mean -- you've
13 never met Mr. Hathcock until before that
14 meeting?

15 A. Correct.

16 Q. And he is the site director; is that
17 right?

18 A. Yes.

19 Q. It's your view that under
20 Mr. Hathcock's leadership, the Petitioner
21 has made some efforts since Mr. Hathcock
22 has taken over?

23 A. Yes. They've made great efforts,
24 especially compared to the previous -- site

1 director of the previous owners.

2 MR. GRADELESS: Can I get a
3 minute to talk to Darin and I think we
4 might be done?

5 HEARING OFFICER WEBB: Let's take
6 five.

7 (Whereupon, after a short
8 break was had, the following
9 proceedings were held
10 accordingly.)

11 HEARING OFFICER WEBB: All right.
12 We are back on the record.

13 Go ahead, Mr. Gradeless.

14 MR. GRADELESS: I have no further
15 questions for Mr. Liska.

16 HEARING OFFICER WEBB: Okay.

17 MR. DIMOND: I have just a few,
18 Hearing Officer Webb.

19 R E - C R O S S E X A M I N A T I O N
20 by Mr. Dimond

21 Q. So, Mr. Liska, I'm not trying to put
22 words in your mouth, but I believe you used
23 the word hostile with regard to what you
24 sort of vaguely described as a prior owner.

1 By that, did you mean Noveon®
2 or what did you mean by that?

3 A. Prior to this new group of people,
4 Mr. Hathcock and everyone prior to them
5 being just sold in the last couple years.

6 Q. Here's the thing; the company
7 has not been sold in the last couple of
8 years.

9 A. Oh.

10 Q. So that's why both Mr. Gradeless
11 and I are both confused by your testimony.

12 So what you're really
13 saying is that the new management group
14 at the plant, you have found to be easier
15 to work with --

16 A. Yes.

17 Q. -- than the old management group?

18 A. Yes.

19 Q. Okay. Again, I'm not trying to
20 put words in your mouth, but I understood
21 Mr. Gradeless to ask you is MBT toxic and
22 I understood your response to be I'm not
23 sure if MBT is toxic, but it prevents the
24 nitrification and the ammonia released is

1 toxic.

2 Did I understand what you
3 said correctly?

4 A. Yes.

5 Q. Okay. Now, my understanding of
6 the testimony of Mr. Cook in Lacon was that
7 outside the zone of initial dilution,
8 Emerald definitely is not toxic.

9 Do you have any different
10 information than that?

11 A. I don't have any different
12 information than that. What Mr. Cook said,
13 I believe is correct.

14 Q. Okay. It's also my recollection
15 that in Lacon, Mr. Twait testified that at
16 outside the mixing zone that Emerald has
17 for its effluent discharge, that the level
18 of ammonia is essentially background and,
19 therefore, below the water quality standard
20 that applies in the Illinois River.

21 Do you have any different
22 information on that issue than what Mr. Twait
23 testified to?

24 A. I -- I don't think they have a mixing

1 zone defined in their permit.

2 Q. Well, you are correct that it's not
3 mentioned in the permit, but Aquatiere -- did
4 not Aquatiere do a study back in 2006 or 2007
5 that addressed zone of initial dilution in a
6 mixing zone?

7 A. Yes, they did.

8 Q. Okay. So I'll just go back to
9 my -- my question. As I understood
10 Mr. Twait to say that outside the mixing
11 zone, the level of ammonia in the Illinois
12 River was essentially back.

13 Do you have any different
14 information on that?

15 A. I don't have any information to
16 refute Mr. Twait's testimony.

17 Q. In response to one of Mr. Gradeless's
18 questions, I understood you to -- and I can't
19 remember what Mr. Gradeless's question was,
20 but I understood you to say that either you
21 or the Agency would like to see the
22 three-milligram per liter limit met and that
23 all uses of the screen be allowed or some
24 words to that affect.

1 Do you remember that?

2 A. Some words to that affect, yes.

3 Q. Is there any -- is there any
4 designated use of the Illinois River that
5 is not currently being allowed due to the
6 presence of ammonia?

7 A. I -- I can't recall on that segment.

8 Q. And in the segment of the river into
9 which Emerald discharges, is -- is the river
10 on -- is the river listed as impaired on the
11 Agency's 303(d) list for ammonia?

12 A. I can't recall if it is or not.

13 Q. Can you recall if it's listed as
14 impaired for dissolved oxygen?

15 A. I can't remember.

16 Q. Now, if -- if I remember -- is the --
17 the information on whether or not that -- that
18 river segment is impaired is not -- is usually
19 not included in the permit itself, but it is
20 usually included in the public notice fact sheet
21 that goes out on top of the draft of the permit;
22 is that correct?

23 A. Correct.

24 Q. So presumably, if -- if I could

1 quickly locate, which I don't think I can
2 at the moment, but if I could quickly locate
3 the public notice fact sheet that was on
4 top of the draft permit for Emerald back in
5 2016, there would be a statement there as to
6 what that segment of the Illinois River was
7 impaired for, right?

8 A. Yes. There is a statement there for
9 it.

10 Q. Okay. So in your testimony about
11 the -- you wanted all uses of the stream to
12 be allowed. You weren't -- you weren't trying
13 to imply that there was some use -- there is
14 some narrative use designated the Board as
15 part of the water quality standard for the
16 Illinois River that is not currently being
17 cheap?

18 A. Correct. That wasn't my intention.

19 Q. Okay. Mr. Gradeless pointed to a
20 section of your testimony where this relates
21 to the derivation of the limits in Agency
22 recommendation number one, the load limits,
23 the pounds per day limits?

24 A. Uh-huh.

1 Q. He referenced a section of your
2 testimony on Pages 182 and 183 where either
3 you testified or Mr. Gradeless asked you a
4 question and it said that you looked at data --
5 I'm not sure if it was since April of 2014 or
6 back to April 2014, but that was the general
7 nature of it.

8 So what I want to ask is
9 when -- did -- did you -- did you or Mr. Twait
10 look at the DMR data in the month of July of
11 2019 sort of pretty soon before the Agency
12 recommendation was filed?

13 A. I don't remember specifically if
14 we had -- did we have -- we filed it in July.

15 Q. I'm not trying to trick you on
16 this.

17 A. Okay.

18 Q. It was filed like on July 19th --

19 A. Right.

20 Q. -- of 2019?

21 A. Right. So I can't remember if
22 we got -- do you mean just specifically July?

23 Q. Well, I'm just -- I'm asking when
24 you prepared that -- you know, when you looked

1 at the DMR data and said you went back five
2 years.

3 A. Uh-huh.

4 Q. Because presumably, if I can
5 figure out when you did it, that would sort
6 of tell us -- and if you really did look back
7 five years, that would tell us when you looked
8 back.

9 A. Right. We worked on it for two
10 or three months, you know, on and off.
11 Obviously, not all of the time. We had
12 other things to do, but we had meetings now
13 and then for two to three months.

14 Q. Okay. So you don't remember exactly
15 when you looked at the DMR data?

16 A. Well, it would be two to three
17 months from the filing from July. So you can
18 backup two to three months from there.

19 Q. Well, within that two- or three-month
20 period from July 19th back --

21 A. Uh-huh.

22 Q. -- you don't remember exactly when
23 you looked at the DMR data, is that --

24 A. Right. It was somewhere in that

1 range.

2 Q. All right. So now every source,
3 not just Emerald, but every source has, I
4 think, 30 days after the end of the month
5 to key in their DMR data, right?

6 A. Yes.

7 Q. So by July 2nd or 3rd, or something
8 like that of any year, the Agency in theory
9 should have access to the DMR data for May --
10 for the preceding May, correct?

11 A. Yes.

12 Q. Mr. Gradeless also made it a point
13 to indicate that the Citgo petroleum
14 situation -- the calculation of the load
15 limits there, that's just a NIPTHES permit,
16 but this is an adjusted standard, but as
17 you testified earlier today, the regulation
18 from which we are seeking a variance -- or
19 not a variance, but an adjusted standard,
20 does not specify any load limits, right?

21 A. Correct.

22 Q. Is there a regulation that specifies
23 how the load limits in an NPDES permit are to
24 be calculated?

1 A. We have discretion on how to calculate
2 them based on flow or if there's any other --
3 any other mitigating factor besides either
4 flow or in some cases, but not in Emerald's
5 case, sometimes they're production based --
6 based on federal numbers, but that's not
7 your case.

8 But usually they are based
9 on flow. However, we can change that due to
10 mitigating factors.

11 **Q. Okay. Now, I understood that was**
12 **sort of a long-ish answer. I'm going to have**
13 **trouble parsing it out.**

14 I understand at the
15 beginning of it, you sort of said we have
16 discretion. Now, I assume when you said
17 "we have discretion," you mean the permit
18 writers?

19 A. Yes.

20 **Q. Okay. I asked a slightly different --**
21 **I was trying to ask a slightly different**
22 **question.**

23 A. Okay.

24 **Q. The question I was trying to ask is**

1 there a regulation that says permit writer,
2 you should calculate the numbers load limits
3 that way?

4 So I'm specifically asking
5 if there is a regulation that directs you
6 as to how to calculate the numbers load
7 limits?

8 A. We have a US EPA permit writer's
9 handbook and that shows several different
10 ways that you could do it. So we would --
11 our instructions on how to calculate the
12 limits are based off of the U.S. EPA permit
13 writer's handbook.

14 Q. Okay. So since -- since you base
15 it off of US EPA permit writer's handbook,
16 I take it that if there is a regulation
17 that specifies how you're supposed to
18 calculate the -- let me back up a second.

19 When I say is there a
20 regulation, do you know what I'm referring
21 to?

22 A. Yes.

23 Q. I'm -- I'm referring to a formally
24 adopted regulation either that the Board has

1 adopted or the Agency has adopted.

2 So we are on the same page
3 on that, right?

4 A. Yes.

5 Q. Okay. So I -- I take it that since --
6 what you're saying is you calculate the load
7 limits based on the guidance and the US EPA
8 permit writer's manual, that as part of --
9 when you're doing your everyday job and you're
10 calculating load limits in terms of pounds per
11 day, you don't base it on a regulation, you
12 base it on the US EPA permit writer's manual?

13 A. Yes.

14 MR. DIMOND: Okay. Done.

15 HEARING OFFICER WEBB: All right.

16 Mr. Gradeless, anything further?

17 MR. GRADELESS: Nothing further.

18 HEARING OFFICER WEBB: Okay.

19 MR. RAO: I have a few. So this
20 will be quick hopefully.

21 D I R E C T E X A M I N A T I O N

22 by Mr. Rao

23 Q. Thank you for being so patient,
24 Mr. Liska.

1 A. No problem.

2 Q. I have a few questions based on
3 your testimony at Lacon and this is with
4 regards to the Mexichem's wastewater effluent
5 from the PVC tank.

6 A. Okay.

7 Q. You had testified that this effluent
8 does not contain MBT prior to the effluent
9 being mixed with Emerald's process wastewater
10 from the PC tank and the C-18 tank.

11 So just looking at the
12 flow data for the PVC tank from your Exhibit
13 4, which lists this as .38 million gallons
14 per day that's coming out of the PVC tank
15 and Mr. Flippin, in his Exhibit 12, indicated
16 that ammonia loading was around 230 pounds
17 per day from the PVC tank.

18 A. Okay.

19 Q. So I thought I would also use
20 Mr. Dimond's calculation to see if it kind
21 of translates to about 73 million grams
22 per liter of ammonia nitrogen in the PVC
23 tank.

24 So my question is it's not

1 from mixing with Emerald's wastewater, which
2 contains MBT. I just wanted your opinion
3 whether Mexichem's wastewater could've been
4 treated to meet the 3-milligram per liter
5 standard within the biological treatment
6 system they have.

7 A. Using the current system that they
8 have, if they did not mix the C-18 tank and
9 PC tank with the PVC tank, I do believe they
10 would be able to nitrify the ammonia in the
11 PVC tank and would meet the three to six
12 concentration limits.

13 Q. You also testified on the -- on the
14 March 15th hearing that during your time at
15 the Agency in reviewing adjusted standards and
16 permits, you had never encountered a situation
17 where one company can make wastewater and
18 a second company that needed an adjusted
19 standard.

20 Could you please comment on
21 whether the Agency has any say in Mexichem's
22 decision to allow Emerald to treat its
23 wastewater knowing that the combined treatment
24 would affect to comply with the ammonia nitrogen

1 **limits.**

2 A. Okay. It's possible that we would
3 have a say. We've seen situations where a
4 company split up and used another company's
5 wastewater treatment plant.

6 We haven't come into a problem
7 where -- that caused the problem that they would
8 not still meet the limits. So we usually allow
9 it.

10 If there -- there were -- if
11 it would cause a problem that would not meet
12 limits and say they had a permit and wanted
13 to split it off into two permits, we could
14 say -- you know, either say no or yes, but
15 you would have to do this and this first or
16 it can be in these streams, but not those
17 streams. We -- we would work with them in
18 that case.

19 Q. Okay. I just wanted to know just
20 because with the mixing, there's about
21 approximately 200 pounds per day that's
22 hanging up in the Illinois River. So if you
23 would've taken into consideration to say
24 you can mix it or is this --

1 A. This permit is pretty much always --
2 it's always been both sides together. So we
3 didn't really have a chance to make that
4 determination.

5 At one point we did put
6 both permittees on it after -- because it
7 used to be all one company pretty far back.
8 Then they split, but they kept just one
9 name on it. Then they put two names on it
10 for a while, but then split it back -- just
11 put one name back on it.

12 Throughout that whole time,
13 they've obviously had the MBT problem. I
14 don't -- we knew that it would probably be
15 a large capital cost for the PVC -- to treat
16 the PVC tank alone, that it was possible,
17 that there could be a capital cost.

18 We didn't push anything at the
19 time that said they -- they -- because they
20 had split, they had to do it this way.

21 **Q. Okay. In your testimony on the**
22 **15th, you mentioned about ExxonMobil and**
23 **Citgo refineries systems outstanding the**
24 **baffles to divide their clarifiers --**

1 secondary clarifiers up to achieve
2 nitrification.

3 Does the Agency have any
4 cost information regarding the modification
5 of those two refineries?

6 A. Let me think. A lot of the upgrades
7 from that was through their own Pollution
8 Control Board adjusted standards. I don't
9 know if we have any of that information, but
10 that information may be available in those
11 two companies' adjusted standards when they
12 filed for those then.

13 Q. Okay. Mr. Flippin, when he was
14 talking about the alternatives that he
15 evaluated, he has raised concerns regarding
16 the potential environmental impact due to
17 removal of ammonia nitrogen from the Henry
18 plant and he stated that most of the treatment
19 alternatives he evaluated for Emerald would
20 result in increased salt loading on Illinois
21 River and also he talked about, you know
22 increased emissions of greenhouse gasses.

23 Could you please comment
24 on whether Agency shares Emerald's concern

1 **regarding increased salt loading or greenhouse**
2 **gas emissions?**

3 A. We have to look at it for the salts.
4 Again, they're going into the Illinois River.
5 As far as total dissolved solids, there's no
6 longer a standard for that alone. We have
7 standards for sulfates and...

8 **Q. And chloride?**

9 A. Chloride, yes. It would -- we
10 would have to look at those instead.

11 As far as greenhouse gas
12 emissions, we're the Bureau of Water. We
13 don't -- I haven't seen this take a lot of --
14 we haven't put a lot of effort into whether
15 or not that would be a possible mitigating
16 factor.

17 **Q. Do you take that into account with**
18 **any of your permit writing for water?**

19 A. I can't recall us ever doing that.

20 MR. ANO: That's all I have.

21 HEARING OFFICER WEBB: Let's
22 go off the record for a minute.

23 (Whereupon, a discussion
24 was had off the record.)

1 HEARING OFFICER WEBB: We're back
2 on the record.

3 We just finished with our
4 witness, Mark Liska, who has had a full day.
5 it is now 6:30 p.m. We have decided we will
6 continue this hearing until 8:00 o'clock
7 tomorrow morning.

8 Is there anything else
9 anyone would like to discuss before we
10 end for today?

11 MR. DIMOND: Thank you for
12 everything.

13 HEARING OFFICER WEBB: The
14 hearing is continued. We're off the record.
15 Thank you.

16 (Whereupon, the above-entitled
17 proceedings were adjourned
18 until 8:00 a.m. February 4,
19 2020, pursuant to agreement
20 of the parties.)

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1 STATE OF ILLINOIS)
2) SS.
3 COUNTY OF C O O K)
4
5

6 I, LORI ANN ASAUSKAS, CSR, RPR,
7 do hereby state that I am a court reporter doing
8 business in the City of Chicago, County of Cook,
9 and State of Illinois; that I reported by means
10 of machine shorthand the proceedings held in the
11 foregoing cause, and that the foregoing is a
12 true and correct transcript of my shorthand
13 notes so taken as aforesaid.

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Lori Ann Asauskas, CSR, RPR.
Notary Public, Cook County, Illinois

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