

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO) No. R22-18
GROUNDWATER QUALITY)
35 ILL. ADM. CODE 620)

REPORT OF THE PROCEEDINGS held in the
above-entitled cause before Hearing Officer
VANESSA HORTON, called by the Illinois Pollution
Control Board, taken by Raelene Stamm, CSR, for the
State of Illinois, 100 West Randolph Street,
Chicago, Illinois, on the 9th day of March, 2022,
commencing at the hour of 9:00 a.m.

Reported By: Raelene Stamm, CSR

License No.: 084-004445

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APPEARANCES:

MS. VANESSA HORTON, Hearing Officer
MS. BARBARA FLYNN CURRIE, Member
MS. MICHELLE GIBSON, Member
MS. JENNIFER VAN WIE, Member
MS. CYNTHIA SANTOS, Member
MS. MARIE TIPSORE, General Counsel
MS. CHLOE SALK, Attorney Advisor
MR. ANAND RAO, Chief Environmental
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MS. ESSENCE BROWN, Environmental Scientist
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APPEARANCES: (Continued)

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ALSO PRESENT:

MS. CAROL HAWBAKER
MR. LYNN DUNAWAY
MR. MICHAEL SUMMERS

1 HEARING OFFICER HORTON: Good morning. Welcome
2 to this Illinois Pollution Control Board hearing.
3 My name is Vanessa Horton, and I am the hearing
4 officer for this rulemaking proceeding entitled, In
5 the Matter of Proposed Amendments to Groundwater
6 Quality, 35 Illinois Administrative Code 620. The
7 board docket number for this rulemaking is R22-18.

8 Also present today for the Board are
9 Chair Barbara Flynn Currie, Board Member Michelle
10 Gibson, Board Member Cynthia Santos.

11 In Chicago are there Board members, Dan?

12 MR. PAULEY: Member Van Wie.

13 HEARING OFFICER HORTON: Member Van Wie.

14 And then from Board staff we have
15 Attorney Advisor Chloe Salk, General Counsel Marie
16 Tipsore, and in Chicago we have Chief Environmental
17 Scientist Anand Rao, Environmental
18 Scientist Essence Brown, and Staff Attorney Daniel
19 Pauley.

20 MR. PAULEY: And Carly Leoni.

21 HEARING OFFICER HORTON: And who else?

22 MR. PAULEY: Carly Leoni.

23 HEARING OFFICER HORTON: And Attorney
24 Advisor Carly Leoni.

1 This hearing is governed by the Board's
2 procedural rules. All information that is relevant
3 and that is not repetitious or privileged will be
4 admitted into the record. Please bear in mind that
5 any questions posed today by the Board and its
6 staff are intended solely to help develop a clear
7 and complete record for the Board's decision and do
8 not reflect any decision on the proposal or
9 testimony or questions.

10 For the sake of our court reporter, please
11 speak clearly and avoid speaking at the same time
12 as another person so that we can help produce a
13 clear transcript.

14 There is a signup sheet on the table in
15 the back there for anyone who would like to sign up
16 for public comment. So if there's any members of
17 the public in person here today, please go ahead
18 and write your name on that list. Also, anyone can
19 submit written public comments on the Board's
20 clerk's office online, and the Board weighs oral
21 and written public comments equally.

22 Notice for this hearing was posted on
23 January 17, 2022, in the Chicago Sun Times and
24 January 15, 2022, in the Springfield Journal

1 Register.

2 On January 6, 2022, the Board requested
3 pursuant to Section 27B of the Environmental
4 Protection Act that the Department of Commerce and
5 Economic Opportunity conduct a study on the
6 economic impact of the proposed rules. The letter
7 requested that the Department of Commerce and
8 Economic Opportunity provide their response to the
9 Board by February 20, 2022. The Board has received
10 no response from them.

11 On December 7, 2021, the Illinois
12 Environmental Protection Agency proposed that the
13 Board amend Part 620 of its groundwater quality
14 regulations. Included with its initial filing was
15 the agency's statement of reasons as well as the
16 prefiled testimony of two agency witnesses, Carol
17 Hawbaker and Lynn Dunaway.

18 On January 13, 2022, a hearing officer
19 order directed that prefiled questions were to be
20 due by February 18, 2022, and prefiled answers
21 based on those questions were to be filed by
22 March 4, 2022. The Board received five sets of
23 prefiled questions from different groups, and in
24 addition the Board itself filed its own prefiled

1 questions for agency witnesses.

2 As to the order of today's proceedings as
3 discussed before off the record, we'll go ahead
4 with general questions about Part 620; and once
5 we're finished with those, we can move through the
6 part section by section and answer any follow-up
7 questions based on the prefiled answers already
8 provided by the agency.

9 So before we begin I will ask up front
10 that all participants please for the sake of our
11 court reporter state your name prior to any
12 questions or statements today. So a section code,
13 please spell out the section letter like 620.101 D
14 as in dog. I think that might help a bit. We'll
15 have a lot of chemical names coming up today. I'm
16 gonna be doing my best in attempting to pronounce
17 them, but again for the sake of our court reporter
18 and me, please go slow when saying either the full
19 chemical name or the abbreviation or an acronym.

20 All right. I anticipate taking a
21 10-minute break around 10:30 and then breaking for
22 an hour at lunch from about noon to 1:00 and
23 another break in the afternoon. We'll end today
24 around 5:00 p.m., and at that point we can discuss

1 where we are in the questions and answers and come
2 up with a plan for tomorrow or for the next
3 hearing.

4 Are there any questions today about the
5 order of proceedings?

6 Hearing none, we'll move on to swearing in
7 the agency witnesses. Miss Court Reporter, would
8 you please swear in our first witness, Carol
9 Hawbaker?

10 (WHEREUPON, the witness was
11 duly sworn.)

12 HEARING OFFICER HORTON: And our second
13 witness, Mr. Lynn Dunaway.

14 (WHEREUPON, the witness was
15 duly sworn.)

16 HEARING OFFICER HORTON: Okay. So if the
17 agency is ready, we'll proceed to questions. I
18 guess but first I'd like to ask if you'd like to
19 enter the Statement of Reasons and the prefiled
20 witness testimony as exhibits. So we'll start with
21 the Statement of Reasons as Exhibit 1,
22 Miss Hawbecker's testimony will be Exhibit 2, and
23 Mr. Dunaway's will be Exhibit 3.

24 Okay. I'm going to move this microphone

1 over to the agency table. And I guess first,
2 Miss Brown, you mentioned you had general
3 questions. You would you like to be the first to
4 ask them?

5 MS. BROWN: Sure. I'm Melissa Brown,
6 M-e-l-i-s-s-a, B-r-o-w-n, with Hepler Broom, and
7 I'm outside counsel for the Illinois Environmental
8 Regulatory Group also known as IERG, and we do have
9 a series of follow-up questions. They are high
10 level policy related, not necessarily tied to a
11 specific provision in the proposed regulations. So
12 I will -- you know, they are tied to a lot of our
13 prefiled questions, so I'll reference those. And
14 I'll probably be reading our proposed -- our
15 prefiled questions and the agency answers so
16 everybody in the room has the benefit of hearing
17 those.

18 So to start with -- and all these
19 questions are to either agency witness. So,
20 please, whoever has the most knowledge with these
21 questions, please feel free to answer. They're not
22 directed necessarily to a specific person.

23 So starting with IERG Prefiled Question 2
24 where IERG asked regarding what the detection

1 levels, guidance levels and/or minimum reporting
2 levels used for PFAS compounds in the community
3 water supply sample conducted by Illinois EPA. The
4 agency answer in their prefiled answer that the
5 detection level is based on USEPA Method 537.1 for
6 drinking water. The detection level and minimum
7 reporting levels for all 18 PFAS parameters
8 detected by this method is 2.0 nanograms per liter.

9 And so our follow-up question is, the
10 agency provided the detection level and the minimum
11 reporting level, but did not provide the guidance
12 levels for each PFAS compound, the guidance levels
13 meaning the health-based guidance level. And IERG
14 was hoping that the agency could provide those
15 health-based guidance levels used in the community
16 water supply sampling effort.

17 MS. HAWBAKER: This is Carol Hawbaker. I can
18 answer that question.

19 BY MS. HAWBAKER:

20 A. For PFAS guidance level it started with
21 140,000 nanograms per liter. The data toxicity
22 updates, it was reduced to 1,200 nanograms per
23 liter. For PFOA it was 2 nanograms per liter which
24 is the minimum reporting level. The health-based

1 level was below that. For PFOS it was 14 nanograms
2 per liter. For PFHxS it was 140 nanograms per
3 liter.

4 For HFO-DA we did not have one for the
5 sampling because toxicity data did not commence
6 until we completed the sampling.

7 Am I missing one?

8 MS. BROWN: PFNA.

9 MS. HAWBAKER: PFNA, it was 21 nanograms.

10 MS. BROWN: Thank you.

11 BY MS. BROWN:

12 **Q. And what were the bases for those**
13 **health-based guidance levels?**

14 A. Those were the levels that were used to --
15 that were calculated from the equations set up in
16 Appendix A currently.

17 **Q. Okay. And how did those health-based**
18 **guidance levels compare to the groundwater quality**
19 **standards proposed in this matter?**

20 A. Groundwater quality standards are reduced
21 as a result of accounting for child exposure as
22 opposed to adult exposure.

23 **Q. And the groundwater quality standards**
24 **proposed in this rulemaking are intended to protect**

1 human health related to use of groundwater
2 including injection or drinking of the groundwater;
3 is that correct?

4 A. That is correct.

5 Q. And what action will the agency take, if
6 any, for any community water supply, for example,
7 where PFAS was detected in the community water
8 supply sampling effort below these health-based
9 guidance levels but is above the groundwater
10 quality standards proposed in this rulemaking?

11 MR. SUMMERS: My name is Michael Summers on
12 behalf of the Groundwater Section of the
13 Illinois EPA.

14 HEARING OFFICER HORTON: Miss Court Reporter,
15 can you please swear in our third witness,
16 Mr. Michael Summers?

17 (WHEREUPON, the witness was
18 duly sworn.)

19 MR. SUMMERS: I'm sorry. Can you repeat the
20 question?

21 MS. BROWN: Absolutely.

22
23 BY MS. BROWN:

24 Q. I was wondering what action, if any, the

1 agency will take for community water supplies, for
2 example, where PFAS was detected at community water
3 supply when the PFAS sampling effort below the
4 health-based guidance level but is above the
5 proposed groundwater quality standards in this
6 rulemaking?

7 A. At this point in time we're just beginning
8 the process of establishing MCLs, minimum
9 contaminant level, for drinking water. That's
10 gonna be the driving force for these community
11 water systems on whether or not there's action
12 needed to be taken based on the concentrations.

13 So at this point in time there is no
14 answer because it does not relate to groundwater
15 versus drinking water standards. They're two
16 different entities -- numbers.

17 Q. Okay. But both groundwater standards and
18 the drinking water standards are for the same
19 purpose and are intended to protect --

20 (Reporter clarification.)

21 BY MS. BROWN:

22 Q. I was asking the groundwater standards
23 proposed today as well as the drinking water
24 standards that are being developed have the same

1 purpose, and that it's human health when drinking
2 or ingesting water?

3 A. My answer is that is correct.

4 Q. Bear with me.

5 Generally is the agency aware of any
6 difference in the general public's perception
7 between water coming from --

8 (Reporter clarification.)

9 MS. BROWN: Generally is the agency aware of
10 any difference in the general public's perception
11 between drinking water -- their drinking water that
12 they're ingesting coming from groundwater versus
13 surface water in terms of one being more protective
14 of human health than the other?

15 MR. SUMMERS: Is that a general rule? I
16 don't -- I'm not aware of any differences in
17 people's perception. I think they assume what they
18 perceive admissible water system is safe, so we try
19 to ensure that.

20 BY MS. BROWN:

21 Q. But has the agency considered what the
22 general public may think or perceive if the
23 proposed groundwater standards are adopted in this
24 proceeding, that the proposed PFAS levels on

1 healthy ingestion of groundwater if these standards
2 are adopted at certain levels, but not unhealthy
3 for those drinking water that comes from surface
4 water since those actions will come later with
5 drinking water development of MCLs, if that makes
6 sense? I can rephrase.

7 A. Yes, if you could.

8 Q. So really it boils down to getting to some
9 of our later questions, the groundwater rulemaking
10 here, the proposed revisions moving forward before
11 the drinking water proposed -- of the MCLs for
12 PFAS, so I guess whether the agency has considered
13 or heard of any concerns from the public regarding
14 moving forward with the groundwater standards ahead
15 of the development of the drinking water MCLs?

16 A. At this point in time I'm not aware of any
17 differentiation between the drinking water
18 standards. We have not begun to delegate 620 which
19 we're discussing here.

20 Q. And I'm gonna move on to agency -- or, I
21 apologize, IERG, I-E-R-G, Prefiled Question 3 in
22 Brief A. And to paraphrase, IERG's question asked
23 about the final results of Illinois EPA's PFAS
24 sampling efforts and community water supplies. The

1 agency responded that it's completing the sampling
2 phase in January 2022. A review of the analytical
3 result and final report is currently being
4 prepared, and a final report is not expected to be
5 received before February of 2023, no later than
6 August 2023.

7 And our Subquestion A was how might those
8 findings relate to the proposed groundwater rules
9 in this rulemaking. And the agency's prefiled
10 response was that the finding of the Illinois EPA's
11 PFAS sampling and community water supplies project
12 will not affect or relate to this rulemaking for
13 revisions to 620 water standards.

14 And my follow-up question is can the
15 agency just elaborate on that response why that
16 community water supply sampling effort does not
17 relate to the development of the proposed revisions
18 in this rulemaking.

19 A. The entire study that they did on the
20 community was the --

21 (Reporter clarification.)

22 THE WITNESS: The PFAS study of the Illinois
23 EPA is completed and is now being finalized and a
24 report being written by the US Geological Survey.

1 The samples were collected from finished water
2 coming from the treatment systems of the community
3 water systems. And these are the 620 groundwater
4 rules which is raw water versus -- they're a
5 different set of rules for groundwater, raw water
6 versus the finished water which is treated at
7 community water systems.

8 Q. Okay. So then again the difference being
9 it is community water for sampling effort again is
10 sampling the treated water, and so any results --
11 the agency's opinion is any results from that
12 sampling effort of the treated water has -- is not
13 helpful at all to the development of the
14 groundwater or the proposed groundwater revisions?

15 A. Yes.

16 Q. Okay. And then -- all right. Moving on
17 to IERG Prefiled Question 5, and in that question
18 IERG asked outside of community water supply where
19 PFAS found in Illinois. The agency's prefiled
20 answer was 40 PFAS compound had been used in a wide
21 range of consumer products, industrial processes
22 and in some firefighting foams. The Illinois
23 EPA -- this has resulted in PFAS being released
24 into the air, water and soil of the state of

1 Illinois.

2 Question 5A was what is the basis for your
3 answer to the above question, and the agency's
4 prefiled response was that the agency considers
5 this question outside of the scope of review of the
6 620 groundwater quality standards evaluation.

7 Just as an initial matter because
8 question -- Prefiled Question 5A was asking for the
9 basis of the agency's answer to Question 5 which
10 the agency answered and did not object to being
11 outside of the scope. IERG would appreciate the
12 agency providing a response to Question 5A as well
13 which would be providing the basis for the agency's
14 answer to Question 5.

15 A. The way I understand it is essentially it
16 comes down to the 620 -- we're looking at --

17 (Reporter clarification.)

18 MR. SUMMERS: The way I understand it is the
19 620 rules are related to what's in groundwater, not
20 related to how it got there. There are multiple
21 mechanisms in how PFAS contamination has entered
22 ground water, surface water, air, because of its
23 wide range in use and prevalence. Up until very
24 recently it was used in many, many commercial

1 products. It's just something that we haven't
2 really explored. The USEPA has addressed some of
3 the sources, but that doesn't really relate to our
4 opinion to the 620 water.

5 Q. So just to clarify for the record, so the
6 agency's opinion would be because the Part 620
7 rules concern what's already in the groundwater,
8 how whatever's in the groundwater got there
9 wouldn't be relevant to revising the standards?

10 A. That is correct.

11 Q. And moving to IERG's Prefiled Question 6,
12 it really is a series of questions for Prefiled
13 Question 6 which concerns, I'm paraphrasing, that
14 we understand Illinois EPA is in the process of
15 developing an MCL for PFAS compounds for drinking
16 water, and then we ask later on why the agency
17 chose to move forward in the groundwater rulemaking
18 ahead of proposing and developing the MCLs for
19 drinking water.

20 I think you touched on this before, but do
21 you mind just answering the question?

22 A. We don't really consider them related.
23 You're looking at two different entities. We have
24 community water systems for the MCLs. You're

1 talking about groundwater. Groundwater is the
2 waters of the state of Illinois.

3 **Q. And just for background, what are these**
4 **Part 620 standards for PFAS? What are they used**
5 **for? How are they used in practice?**

6 A. The proposed ones essentially be used in
7 the value of the safety -- groundwater --

8 (Reporter clarification.)

9 THE WITNESS: They'll be used in the evaluation
10 of groundwater quality in private wells or --

11 MR. RAO: We can't hear you.

12 THE WITNESS: They'll be used for the valuation
13 of groundwater quality for private residential
14 wells in the state and also be used for remedial
15 activities for potential other contaminated sites
16 where we're looking at cleaning up or what type of
17 remedial activities will be necessary for
18 protecting the groundwater of the state.

19 **Q. And in the past has what -- you know,**
20 **typically for a compound where MCL is going to be**
21 **developed for drinking water and will at some point**
22 **also be developed a standard for that compound for**
23 **groundwater, does the agency have historically, you**
24 **know, a usual process of moving forward with**

1 **developing drinking water MCL for that compound**
2 **before developing the groundwater standard for that**
3 **compound?**

4 **Is that typically how it's done or does it**
5 **depend on the compound?**

6 A. Well, as far as the development of the MCL
7 goes, this will be the first MCL the Illinois EPA
8 has actually developed. Every other MCL that is in
9 the state was established by the US Environmental
10 Protection Agency. We simply adopted them.

11 **Q. As an Illinois MCL?**

12 A. As an Illinois MCL. So right now we
13 decided as an agency to proceed ahead of the
14 Illinois EPA because we feel it's important and --
15 standards in place because we don't know how long
16 the USEPA will take.

17 **Q. Is the same data, toxicity data, the data**
18 **used to develop these proposed groundwater**
19 **standards the same data that USEPA is considering**
20 **when considering whatever PFAS efforts they might**
21 **be doing at this moment?**

22 A. I am not privy to what the USEPA data is
23 and what they choose.

24 **Q. What is the source of the toxicity data**

1 that the EPA is using to develop these PFAS --
2 proposed PFAS groundwater?

3 MS. HAWBAKER: This is Carol.

4 Could you ask your previous question
5 again, please?

6 MS. BROWN: Sure.

7 BY MS. BROWN:

8 Q. I believe I was saying just generally
9 what -- I guess my first question, to back up, was
10 whether the agency -- what the toxicity data and
11 other data that the agency, the Illinois
12 Environmental Protection Agency, is relying on in
13 these proposed groundwater standards is the same
14 data that USEPA is currently reviewing and
15 potentially using in their PFAS drinking water
16 efforts?

17 A. No, it's not. Actually, the USEPA for
18 PFOA and PFOS, they have both submitted for
19 peer-review updated toxicity data which actually
20 would lower the health-based aspect of the MCL.

21 Now, the MCL also includes other things
22 like economic feasibility, you know, ability to
23 remediate, things like that as well. But the
24 toxicity data at least for PFOA and PFOS that the

1 USEPA just recently released for direct review is
2 not the data we're relying on because it's not a
3 final data, and we want to use final, and because
4 it was released just I believe last month, perhaps
5 the month before.

6 **Q. Thank you.**

7 **And so then what -- so you're not using**
8 **the toxicity data the USEPA is currently reviewing.**
9 **So then what is the source of the toxicity data**
10 **that you have used to develop standards?**

11 A. For PFAS we're using PPRTV which is the
12 USEPA's Provisional Peer-Reviewed Toxicity Values.

13 For PFOS, PFNA, PFHx, I still think I'm
14 missing one, we're using ATSDR's toxicity source as
15 a Tier 3 source, Number 1 ranked Tier 3 source.

16 For PFOA we are using the California EPA
17 carcinogen toxicity value because PFOA meets our
18 criteria to be designated a carcinogen.

19 **Q. Thank you.**

20 **Moving on to just a more general question,**
21 **based on the agency and their position on the**
22 **proposed groundwater standards here and the**
23 **development of the drinking water MCL, would it be**
24 **correct or can you tell me whether the agency's**

1 **drinking water or the agency's groundwater unit had**
2 **any internal --**

3 **(Reporter clarification.)**

4 MS. BROWN: So based on the answers this
5 morning that the proposed groundwater provisions in
6 this matter are not related to the agency's
7 development of the drinking water MCL, has there
8 been any internal discussion between the agency's
9 drinking water personnel and the groundwater
10 personnel regarding which effort was gonna move
11 forward first, either the development of the MCLs
12 or the development of the proposed groundwater
13 revision?

14 MR. SUMMERS: I sincerely apologize. I'll ask
15 you to repeat that.

16 MS. BROWN: Not a problem, I will repeat the
17 question.

18 BY MS. BROWN:

19 **Q. Based on the agency's responses this**
20 **morning that the development of the proposed**
21 **groundwater revisions in this rulemaking are not**
22 **related to the agency's development of the drinking**
23 **water MCL, has there been any internal discussion**
24 **between the agency's drinking water staff and**

1 groundwater staff regarding which effort was gonna
2 move forward first, either the development of the
3 MCL or the development of the proposed groundwater
4 revisions?

5 A. The short answer is no. There was not
6 much communication on that issue. The groundwater
7 standards for the 620 revisions were proceeding on
8 a different track, and that's where we're at today.
9 The MCLs waiting until we were completed with our
10 community water system sampling project. And while
11 I mentioned that we are starting to work on the
12 MCLs for the community water system, we are in the
13 very, very beginning stages of that in that we are
14 just starting to get together to find out who's
15 even gonna be working on the project. So they're
16 in totally different places.

17 Q. Thank you.

18 Moving on to IERG's Prefiled Question 10
19 and the agency's response, and this question
20 concerned USEPA's Integrated Risk Information
21 System, or IRIS, and the IRIS assessments for PFHxS
22 and PFNA, and that the assessments for these
23 compounds -- the IRIS assessments for these
24 compounds were expected to be issued later this

1 year, and our question was whether the results of
2 these will have any impact on the proposed
3 groundwater standards.

4 The agency's answer stated that it will
5 review assessments, and amendments will be
6 considered after the assessments are peer reviewed,
7 released for public comment and issued as final
8 documents.

9 In the hypothetical where these
10 assessments have been completed, issued as final
11 documents sometime this year, and that this
12 groundwater is still ongoing, will the agency
13 consider at that point potentially at least
14 reviewing the assessment and amending its proposal,
15 waiting for the groundwater revisions in this
16 rulemaking adopted by the Board and then amending
17 later, but if this is still ongoing actually
18 updating the proposal that's in front of the Board
19 right now?

20 BY MS. HAWBAKER:

21 A. As it becomes a Tier 1 toxicity source,
22 that would be the logical thing to do. I'm not
23 sure if that can be done, but a lot of PFAS
24 toxicity is moving very quickly right now. And

1 with IRIS, if they do finalize while we're still
2 going through, we will certainly review that; and
3 based on our hierarchy, that would be the
4 legitimate choice for an updated toxicity value.

5 BY MS. BROWN:

6 **Q. What is the basis or can the agency just**
7 **provide again an explanation of why --**

8 **(Reporter clarification.)**

9 BY MS. BROWN:

10 **Q. Can the agency provide an explanation of**
11 **why we are proceeding with these proposed**
12 **groundwater revisions ahead of these IRIS**
13 **assessments being finalized?**

14 A. Because we know there's a groundwater
15 threat now, and we want to take care of it. We
16 want to address it as soon as possible. It's the
17 same with any other toxicity update. We -- when it
18 gets updated, then we incorporate that in new
19 information that at this point we know it's in the
20 groundwater. We know that people can be affected
21 by drinking that groundwater, and it's time for us
22 to take action.

23 **Q. Okay. Moving to IERG's Prefiled**
24 **Question 11, and this question concerns whether the**

1 agency consulted with USEPA regarding this
2 groundwater proposal at any point or prior to
3 filing it with the Board. The agency's prefiled
4 response was that its rulemaking effort here is
5 independent of USEPA's proposed National Primary
6 Drinking Water Regulations and the USEPA's
7 Strategic Road Map.

8 I guess getting to a broader question than
9 that, I guess my question is whether the agency in
10 developing these groundwater -- this groundwater
11 proposal consulted with the USEPA on any aspect of
12 developing the groundwater standards such as the
13 toxicity data or any data lab pathology or any
14 other aspects?

15 MR. DUNAWAY: This is Lynn Dunaway.

16 I'm not aware that we consulted with USEPA
17 on those topics.

18 BY MS. BROWN:

19 Q. Generally does the agency consult or
20 historically has the agency consulted with the
21 USEPA developing groundwater standards?

22 A. Lynn Dunaway, to my recollection we have
23 not. We proposed amendments to the 620 standards.
24 We've not consult with the USEPA.

1 Q. And why does the agency not consult with
2 USEPA when developing groundwater standards?

3 A. Because these are state standards and
4 don't follow the USEPA's purview.

5 Q. Moving on to IERG's Prefiled Question 12
6 and the subquestions, and part of the subquestion
7 is IERG asked whether the agency's aware of states
8 that are proposing PFAS groundwater standards
9 before PFAS drinking water standards. And the
10 agency responded again this rulemaking effort was
11 independent of regulatory efforts in other states.

12 And I get that that's the agency's
13 position, but I guess in response to one of the
14 Board's prefiled questions, I believe Prefiled
15 Question 1 of the Board, the agency provided a
16 table that showed other states' PFAS efforts either
17 in groundwater, drinking water or I believe surface
18 water.

19 So I guess in response to our direct
20 question, would it be correct to say that the
21 agency is aware of other state efforts related to
22 the development of PFAS standards?

23 MS. HAWBAKER: Yes, we are. And generally what
24 we found is the groundwater standards will go

1 first, and the drinking water standards tend to
2 come in secondary to the groundwater standards with
3 the states that have promulgated regulations on the
4 ground. But, yes, it's -- there's several states
5 that are in the process or have promulgated
6 groundwater standards and then drinking water
7 standards as well. However, it has been the
8 circumstance where the groundwater has generally
9 been the first set of standards that have been
10 developed.

11 BY MS. BROWN:

12 **Q. And numerically how does the proposed**
13 **groundwater standards in this rulemaking compare to**
14 **the adopted or proposed standards in other states?**

15 A. It depends because the other states are
16 also moving. They're updating regularly as well
17 due to toxicity data updates with PFAS. We are
18 generally a little bit lower in some cases.
19 However, that has to do with our minimum reporting
20 levels being set at 2 nanograms per liter for PFOA.
21 The other ones are fairly well in line. Although
22 it's -- we are a little bit lower, I believe,
23 generally across the Board.

24 **Q. Okay. And moving to IERG's Prefiled**

1 Question 14, and our Question 14 asked how would a
2 facility or property owner that has found PFAS
3 present on its property determine whether the cause
4 of the PFAS was an on-site impact or off-site
5 impact.

6 The agency's prefiled response was that
7 the on-site or off-site origin of PFAS would be
8 demonstrated in the same manner as any other
9 contaminant with the use of upgradient and
10 downgradient wells. And generally for other
11 compounds -- generally for other compounds, are
12 on-site and off-site origins ever demonstrated in
13 other manners or in other ways in addition to
14 upgradient and downgradient wells or any other
15 factors ever considered in addition to upgradient
16 and downgradient well sampling?

17 A. This is Lynn Dunaway.

18 In the -- my experience used, and this is
19 within the Bureau of Water, we have done remedial
20 actions for groundwater. We've used upgradient,
21 downgradient wells to clients for a particular
22 unit. I can't speak for other programs, if they
23 have other means to do so.

24 Q. Okay. So right now it is the agency's

1 **position that upgradient and downgradient well**
2 **sampling will be sufficient to determine the actual**
3 **source of PFAS either on site, off site; is that**
4 **correct?**

5 BY MS. HAWBAKER:

6 A. Well, first I would like to clarify my
7 experience in the Bureau of Land. We do -- for the
8 cleanup programs, there is Section 0.742 which is
9 TACO, for those who are familiar with that acronym,
10 allows for background demonstrations. They can be
11 done, set up a well network like Lynn described,
12 gradient and downgradient to determine if there's a
13 particular source migrating on to the site.

14 We also like -- we will accept statistical
15 evaluations, but again that's still involving the
16 upgradient downgradient wells.

17 **Q. And then so speaking of TACO, but in your**
18 **experience regarding groundwater do you think -- is**
19 **it your opinion that upgradient and downgradient**
20 **well sampling is sufficient to detect the source of**
21 **PFAS?**

22 A. It would be helpful, and it would be
23 helpful for at least telling us what's coming on to
24 the site and what's migrating. And if we know

1 what's coming on to the site, then we have an idea
2 of what the concentrations can be. And then as it
3 moves to a site that may or may not, as you put it,
4 be impacted, then we should be able to see the -- a
5 lesser concentration or a higher concentration
6 maybe beyond that.

7 Q. Moving on to IERG's Prefiled Question 15,
8 and here generally IERG asked regarding
9 accepting -- the agency accepting comments on the
10 proposed standards prior to filing with the Board
11 and whether this rulemaking -- the proposed
12 regulations in this rulemaking has taken into
13 account those comments and, if so, please identify
14 the comments that were taken into account and the
15 changes to the proposed rules based on those
16 comments.

17 And the agency's prefiled answer was that
18 the Illinois EPA has reviewed and considered all
19 comments presented prior to filing the proposed
20 amendments.

21 And my question was, does the agency
22 intend to develop a response to comments document
23 in this rulemaking?
24

1 BY MR. DUNAWAY:

2 A. This is Lynn Dunaway.

3 We do not intend to do that.

4 BY MS. BROWN:

5 Q. Okay. And if I'm a commenter and I see
6 that the proposed regulations don't incorporate my
7 suggested provisions in my comment, I should assume
8 that the agency has considered that comment,
9 decided not to incorporate my comment into the
10 proposed rules; but how do I go about finding out
11 the basis for the agency's decision for not
12 incorporating my proposed comment?

13 A. This is Lynn Dunaway.

14 These Board hearings would be raised in --
15 questions would be -- how you find out how --

16 (Reporter clarification.)

17 MR. DUNAWAY: These hearings would be the forum
18 where a question with follow-up questions would be
19 able to determine why or why not their comments
20 were anticipated or not accepted.

21 BY MS. BROWN:

22 Q. To that effect then I can assume that the
23 agency has considered at least the groundwater
24 advisory counsel's comments of both the comments

1 filed with this rulemaking and any comments made
2 prior to filing the proposed of revisions, correct?

3 A. Yes, that's correct.

4 Q. Okay. Only a couple more. Getting to
5 IERG's Prefiled Question 18 which concerns the
6 addition of GenX as a chemical for a standard after
7 Illinois EPA received comments on the proposed
8 rule, and the agency provided their answer and
9 stated in that answer that GenX has been detected
10 in Illinois groundwater.

11 And my follow-up question there is where
12 or in what parts of the state or areas has GenX
13 been detected in groundwater?

14 BY MS. HAWBAKER:

15 A. GenX has been detected in groundwater at a
16 manufacturing facility and that is where we found
17 the GenX as of right now. We are currently --
18 because it is a component of the newer fire
19 fighting foams, our military submits are also
20 testing for it, but we haven't received any data
21 back yet.

22 Q. And how did the agency determine that GenX
23 was present in groundwater at that one facility?

24 A. Through groundwater monitoring wells,

1 sampling and monitoring wells.

2 Q. And where is that -- what county is that
3 facility located?

4 A. Rock Island County.

5 Q. And the last set of questions, IERG's
6 Prefiled Question 20, and your role as a member of
7 USEPA's Environmental Council of the State PFAS
8 Group, or ECOS PFAS group. In the agency's
9 response you state that interactions are
10 representative from Illinois and to provide updates
11 of Illinois EPA's development of PFAS standards.

12 So in your role as a representative, do
13 you provide updates on all the agency's PFAS
14 activities?

15 A. Right now the only activities that we have
16 going on regarding PFAS are the military sampling,
17 the manufacturing facility, the community water
18 supply sampling and then the groundwater, those
19 standards. And so, yes, we have updated with
20 those, but that's right now the only thing that the
21 agency is doing regarding PFAS.

22 Q. And you noted earlier that other states
23 have moved forward with groundwater proposals ahead
24 of drinking water proposals. In your role as a

1 **representative in this ECOS group, were there**
2 **discussions by other states regarding whether to**
3 **move first with groundwater versus drinking water?**

4 A. No, not necessarily in that vain.

5 Groundwater just simply came first. I think it was
6 more circumstance of having the toxicity data.

7 They had the other data, the economic feasibility
8 and the remediation technologies. So I do believe
9 that's why groundwater came first which is why it's
10 coming first in this case as well. But it never
11 really was brought up as this is our pattern.

12 MS. BROWN: Thank you very much. I appreciate
13 your time. Thank you.

14 HEARING OFFICER HORTON: This is Vanessa
15 Horton.

16 Does anyone here -- I'm gonna ask in this
17 room first, and then I'll ask it in Chicago. I
18 know there are participants there.

19 Does anyone here in this room have further
20 follow-up questions for the agency in a general
21 sense, not specific standards?

22 Member Santos?

23 BY MS. SANTOS:

24 **Q. Good afternoon or good morning. I am**

1 **Member Santos. I just have one follow-up question**
2 **for Mr. Dunaway.**

3 **Back to Question 11, you said -- you made**
4 **a statement, and this is not verbatim, that state**
5 **standards do not fall under the USEPA for**
6 **groundwater. So does that -- just to clarify that,**
7 **so the USEPA does not set standards for**
8 **groundwater?**

9 A. The US -- this is Lynn Dunaway.

10 The USEPA does not set standards for
11 groundwater in Illinois.

12 **Q. Why not in Illinois? Does it do it for**
13 **other states?**

14 A. Not that I'm aware of. I do not know what
15 goes on in other states.

16 MS. SANTOS: Okay. Thank you.

17 HEARING OFFICER HORTON: This is Vanessa
18 Horton.

19 Any general follow-up questions?

20 Mr. Andes, if it's okay for you to come up
21 here. We're gonna get two more microphones at
22 lunchtime, so . . .

23 BY MR. ANDES:

24 **Q. Thank you. This is Fred Andes from Barnes**

1 and Thornburg, and I'm here for the PFAS Regulatory
2 Coalition. A few follow-up questions, one concerns
3 how the groundwater standards will be used. I
4 heard two uses. One was in valuating groundwater
5 quality. The other was remediation activities for
6 other sites.

7 So my question is if the agency can
8 explain how would the standards be used in
9 determining requirements of remedial activities at
10 sites with PFAS levels in the ground or, more
11 accurately, in the groundwater.

12 BY MR. DUNAWAY:

13 A. This is Lynn Dunaway.

14 The groundwater standards are used to
15 determine when --

16 (Reporter clarification.)

17 MR. DUNAWAY. The groundwater standards would
18 be used to determine when a remediation would be
19 necessary. However, whether the final objective
20 for cleanup is determined on a site specific basis
21 depending on the conditions at the site.

22 Q. Well, so there are two issues there that
23 I'd like to get clarity on. One is -- so would the
24 agency say if a site has groundwater contamination

1 above the PFAS safety PFOA standard, that -- how
2 would it decide whether cleanup is necessary at
3 that site?

4 A. The necessity of cleanup is based on the
5 rules that apply within the programs.

6 Q. Do those rules require that there be a
7 cleanup if the contaminant is present above the
8 groundwater standard?

9 A. I don't use those programs, so I'm gonna
10 pass this to Carol.

11 BY MS. HAWBAKER:

12 A. Again I wish to clarify that I'm not with
13 the Bureau of Land; however I have worked in the
14 Bureau of Land, and I am familiar with Section 742
15 TACO regulations, and there does not necessarily
16 require cleanup. It requires what we consider
17 exclusion of the groundwater ingestion exposure
18 route. That can be done several different ways.

19 One way would be to allow for a municipal
20 groundwater ordinance which prohibits the use of
21 groundwater as a reputable water supply. We can
22 also do onsite groundwater restrictions that can
23 prevent the use of a particular site from using
24 contaminated groundwater. We can begin talking

1 about the background and the statistical
2 evaluations that can be made to demonstrate that
3 the groundwater is not -- that maybe at the site
4 may not be the site that the source is.

5 So there are other factors as opposed to
6 simply cleaning up. It's more about excluding the
7 exposure pathway when it comes to land programs.

8 **Q. So then there may be situations where**
9 **contamination is found above the groundwater**
10 **standard, and the agency determines remediation is**
11 **necessary, right?**

12 A. Yes, there would be. If there's concern
13 that is within the setback of a community water
14 supply well, if there's a concern that is in an
15 area that is not restricted which will allow a
16 person to install a private well, yes, but they do
17 have the other option to impose those restrictions.

18 **Q. And if a cleanup is required, then they**
19 **may be required to clean up to the level of the**
20 **groundwater standard, correct?**

21 A. Yes, that is correct.

22 **Q. Has the agency -- so if that's a possible**
23 **result of issuing these groundwater standards, has**
24 **the agency assessed what the impossible remediation**

1 **cost would be at sites around the state of**
2 **Illinois?**

3 A. That is not under my purview. I would
4 not -- I have no way to answer that.

5 **Q. I'm asking the question generally at the**
6 **agency.**

7 BY MR. DUNAWAY:

8 A. This is Lynn Dunaway.

9 Those costs will be evaluated as the
10 programs are up and consider these new statistics.

11 **Q. So the answer is the agency has not**
12 **evaluated those costs at this time, correct?**

13 A. We have not because that's not what the
14 purpose of the standards is.

15 **Q. We can disagree about what the agency is**
16 **required to do in adopting these standards.**

17 I'm just confirming the agency has not
18 **assessed the cost remediating sites to the level of**
19 **these groundwater standards.**

20 A. For Part 620 we have not evaluated, no.
21 That's what I've been working on. I don't know
22 what Bureau of Land may have done to their
23 programs.

24 **Q. Thank you.**

1 are all kinds of factors that go into each
2 individual state programs for developing the
3 groundwater standards. The groundwater standards
4 that we developed are based on what's in our
5 620 regulations.

6 Q. So one thing that I'll ask, and I guess we
7 can pursue this through the specific questions, is
8 a specific analysis particularly given in virtually
9 every state we're aware of has lower -- has higher
10 standards, often significantly higher, than the
11 Illinois proposal, we would like a detailed
12 analysis of particularly where the same studies are
13 being used by other states in different ways or,
14 for example, other states are not deeming PFOA to
15 be a carcinogen.

16 We would like a detailed explanation why
17 Illinois feels those states are wrong and that
18 Illinois' proposal is correct.

19 A. Sure, we can do that. I can answer your
20 question in general right now, is the Illinois
21 Environmental Protection Act designates what's
22 considered a carcinogen in Illinois. Illinois for
23 PFOA, one of the requirements to be a carcinogen is
24 the World Health Organization, The International

1 Agency of Research on Cancer, designates it either
2 a Class 1 or a Class 2A or 2B carcinogen. That's
3 within the act.

4 It's also within the decision of Part 620.
5 In 2017, the IARC, The International Agency For
6 Research on Cancer, they listed PFOA as a Class 2B
7 carcinogen in 2017. Therefore, it is a carcinogen
8 for the state of Illinois.

9 **Q. So a follow-up questions on that, in a**
10 **situation like that where USEPA has not determined**
11 **PFOA to be a carcinogen and is not moving forward**
12 **to regulate on that basis, your position is**
13 **Illinois EPA will do that anyway because it is**
14 **designated as such by an international body even**
15 **when USEPA doesn't designate it that way?**

16 A. Yes. And I would like to clarify that the
17 updated toxicity values most recently submitted for
18 review, peer review, by the USEPA does consider a
19 carcinogen for PFOA.

20 **Q. Yes. As to those updated values that**
21 **USEPA submitted to the Science Advisory Board,**
22 **there have been detailed comments submitted, as I'm**
23 **sure you're aware, questioning the basis for those**
24 **statements. And, in fact, there are statements by**

1 panel members also questioning the EPA assessments.

2 Have you reviewed the issues raised by
3 commenters and by panel members?

4 A. No, I have not. Because they've been so
5 recently, I was not aware that comments had even
6 been submitted at this point.

7 Q. We would be glad to provide those for the
8 record including comments that the PFAS Regulatory
9 Coalition submitted and other parties as well.

10 A. Sure.

11 Q. So the question that that goes towards and
12 as the agency stated earlier, the numbers -- the
13 gross assessment numbers for these various
14 substances have been changing and developing fairly
15 rapidly as new studies come out, and there's
16 continuing scientific debate.

17 So one question would be, since Illinois
18 EPA is moving ahead now while that is going on, how
19 would the agency -- and knowing that the rulemaking
20 process in Illinois doesn't move quickly, would the
21 agency expect to adapt its regulation and
22 requirements as new studies come out?

23 A. Well, what we do right now is we submit
24 evidence whenever toxicity updates come through.

1 For PFAS, again they are moving very quickly and
2 moving downward. We believe that if any of these
3 become finalized and they are higher on the tier
4 than what the section toxicity values we selected,
5 then we will review them and possibly ask if we
6 can -- to amend them within the rulemaking.

7 Q. So in that regard we know that under the
8 USEPA PFAS road map, the agency is over the next
9 two years, because that's timeline for the road map
10 in 2024, proceeding to take a number of different
11 actions, drinking water standards as well as other
12 actions, many of which will involve assessing some
13 of the same studies and making federal decisions in
14 terms of what studies they'll be relying on, what
15 numbers they'll be setting both on health effects
16 and on MCLs with feasibility.

17 So I guess the question is, how, if this
18 process, this rulemaking process takes some time
19 and then shortly after this process is over, EPA
20 comes out with new numbers, how is the agency going
21 to reopen this rulemaking to take into account the
22 new information coming out from USEPA?

23 A. What we'd likely do is -- what we usually
24 do is submit updates like we are now.

1 Q. And how would that affect -- as was stated
2 earlier, these standards once adopted will be used
3 in assessing the possible actions at sites. How
4 would, say, if sites are being evaluated for
5 remedial action and requirements may be issued,
6 decisions made, and then the agency changes the
7 regulations based on the fact that new studies are
8 emerging, how would that modify the remedial
9 program decisions that are being made?

10 A. I can't say as to how it'll modify them,
11 but this is a rather common occurrence. We update
12 toxicity values. We update values on a regular
13 basis. It is -- adjustments are made within Bureau
14 of Land programs.

15 Q. The -- as to the PFAS, I think you would
16 view it -- recognize that there's more going on and
17 more studies being done, more evaluations happening
18 than maybe usual for substances and would remain an
19 ongoing basis over the next few years?

20 A. Yes.

21 Q. Thank you.

22 One question a little more specific is as
23 to the issues raised by the groundwater advisory
24 council, and the council made comments indicating

1 that it raised periods of concerns that have not
2 been responded to by the agency. Does the agency
3 intend to specifically respond to each of the
4 issues raised by the council?

5 BY MR. SUMMER:

6 A. This is Michael Summers.

7 I believe we have addressed the broad
8 scope of the groundwater advisory council's
9 comments which basically consisted of --

10 Q. The council states very clearly that they
11 don't think you addressed their concerns.

12 A. So I'm told NWRA was asked those same
13 questions, and they are addressed in those answers.

14 Q. Okay. We'll get to that later then.

15 Going back to the remedial issue, beyond
16 the issue of cost of the agency, I'm assuming that
17 in one of these also is if remediation will be
18 required, we need to know what options are
19 available to treat, dispose and otherwise manage
20 residuals. And my assumption here is the agency
21 has not evaluated yet the availability of treatment
22 and disposal for PFAS remediation actions at this
23 point; is that right?

24

1 BY MR. DUNAWAY:

2 A. This is Lynn Dunaway.

3 Not as part of this amendment to our
4 rulemaking, no.

5 Q. Are you aware of the agency doing that in
6 any other forum?

7 A. We do know that the other programs are
8 anticipating these amendments, and they're working
9 on it, but we don't know their status.

10 Q. Thank you.

11 A couple of questions on the hierarchy in
12 evaluating studies. One is that my understanding
13 is that under that regulation in general USEPA
14 values have a higher level on the hierarchy
15 established in the state, but in this case as to
16 some of the PFAS substances, the agency is
17 specifically not relying on EPA derived values, but
18 rather on other values including ones from
19 California or from ATSDR.

20 Can you explain why in those situations
21 where there are USEPA derived values, that the
22 agency has chosen not to use those, but instead to
23 use lower hierarchy values?
24

1 BY MS. HAWBAKER:

2 A. Well, actually they're using higher --
3 we're using hierarchy values. The USEPA Office of
4 Water Toxicity Values is an unranked Tier 3 source.
5 Whereas, ATSDR is Tier 1 or a number one rank
6 Tier 3 source. That's one of the reasons that we
7 are not relying on USEPA values.

8 The other ones are the values that are
9 currently set, were set from data that was done
10 from 2015 and prior. As we all know toxicity data
11 has been really ramping up for PFAS. It's been
12 consistently going lower, and -- when the higher
13 level tier opened up, we elected to use that one
14 because it had more data and because it was the top
15 three tier source.

16 **Q. So how does the agency and where in the**
17 **regulations does it provide that the agency is**
18 **going to evaluate sort of the currency of studies**
19 **in determining which ones are valued over others?**

20 A. It's actually in the testimony. It was
21 listed in the testimony in the 2008 rulemaking. It
22 was promulgated in, I believe, 2012 is where --
23 when Tom Shore testified about the use of using the
24 hierarchy, the USEPA hierarchy, which listed ATSDR

1 and California EPA. It didn't in 2003. It
2 mentioned them as alternative Tier 3 sources, but
3 then in 2000, I believe, 13, they updated the
4 Tier 3 hierarchy to actually rank the Tier 3
5 sources.

6 **Q. As to specific issues in --**

7 **(Reporter clarification.)**

8 MR. ANDES: I'll have some specific questions
9 later regarding the ATSDR values. Those are all
10 the general questions I have at this time. We'll
11 ask our specific questions later. Thank you.

12 HEARING OFFICER HORTON: This is Vanessa
13 Horton. I think now is a good time to take a
14 10-minute break, and then when we come back we can
15 continue with general questions here from
16 Springfield.

17 Yes, one question, Member Gibson.

18 BY MS. GIBSON:

19 **Q. I just wanted to know basically how many**
20 **sites have you actually identified besides the ones**
21 **that you mentioned in Rock County, do you have**
22 **specific numbers on what community water systems**
23 **have been identified with PFAS or anything on**
24 **private drinking systems?**

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BY MS. HAWBAKER:

A. We are aware of some private drinking water systems in the state. We are aware of some military bases that have it. We are also aware and tracking the raw water data, the community water supply wells that had detections. Then we have it in quite a bit of the raw water and then the community water supply wells.

Q. Do you have specific numbers from the community water systems?

A. No, we do not, but we can provide those.

MS. GIBSON: Okay. Thank you.

HEARING OFFICER HORTON: Great. Let's break for about 10 minutes, so maybe 10:32. Okay.

(WHEREUPON, a short recess was taken.)

HEARING OFFICER HORTON: I believe that here in Springfield we're done with general questions. Let me just double-check. Is there anyone here who might have a general question?

Okay. Hearing none, seeing none, we'll move to participants in Chicago -- oh, I'm sorry.

1 UNIDENTIFIED SPEAKER: Just to clarify, we have
2 several questions.

3 HEARING OFFICER HORTON: Yes, I understand.
4 We'll circle back after.

5 So in Chicago are there any general
6 questions for the agency? Follow-up questions for
7 the agency?

8 MR. RISOTTO: Yes. This is Steve Risotto from
9 the American Chemical Council. Can you hear me
10 okay?

11 HEARING OFFICER HORTON: Yes, we can. You can
12 proceed and ask your questions.

13 BY MR. RISOTTO:

14 Q. Sure. And these are not general
15 questions, but they're in follow up to the
16 responses to some of the questions regarding the
17 substance GenX. The staff indicated that it was
18 detected at a manufacturing site, and sort of not
19 asking for the identity of the site, but do you
20 know what type of industry? Was it a chemical
21 manufacturer or what other type -- what type of
22 manufacturing was done at the site?

23 BY MS. HAWBAKER:

24 A. It was a chemical manufacturing.

1 Q. Okay. Thank you.

2 And then you also indicated that your
3 sense was GenX was used in firefighting foam. And
4 that is not our understanding, so just want to
5 check where that information comes from.

6 A. It came from the Class B firefighting foam
7 sources from ITRC, Interstate Technology Regulatory
8 Council.

9 MR. RISOTTO: Okay. Thank you.

10 HEARING OFFICER HORTON: Okay. Mr. More or a
11 participant in Dynegy, did you have any general
12 follow-up questions?

13 BY MS. JOSHI:

14 Q. Yes, this is Bina Joshi from Arent Fox
15 Schiff here on behalf of Dynegy. I just had a
16 couple of questions to make sure that I understood
17 some of the earlier testimony correctly.

18 So, first of all, I just wanted to
19 confirm, has the agency looked at all at the
20 technical fees of validity of remediating to the
21 proposed standards that are part of this
22 rulemaking?

23 BY MR. DUNAWAY:

24 A. This is Lynn Dunaway.

1 As we discussed earlier, the Bureau of
2 Land is in the early stages; however, we are gonna
3 have to have some sort of standard for them to know
4 what level would have to be cleaned up and narrow
5 whether that would affect costs.

6 **Q. Can you clarify what you mean by we are**
7 **going to have some -- have to have some kind of**
8 **standard? Exactly what are you referring to there?**

9 A. Well, they would need a target number.
10 You can't estimate how much it's gonna cost to
11 clean something up if you don't have a number that
12 you're starting with.

13 **Q. And when you say target number, are you**
14 **assuming that the proposed standards that IEPA is**
15 **proposing here would be the target numbers? Is**
16 **that what you're -- is that what you mean?**

17 A. Yes.

18 **Q. Okay. And in the context of this**
19 **rulemaking, though, Bureau of Water is not**
20 **separately looking at the feasibility -- of the**
21 **technical feasibility of reaching the proposed**
22 **standards?**

23 A. No.

24 **Q. And has the agency looked at all into the**

1 economic feasibility of reaching any of the
2 standards that are proposed as part of this
3 rulemaking?

4 A. Can you repeat that question?

5 Q. Sure.

6 Has the agency looked at all at the
7 economic feasibility for economic implications of
8 remediating to the standards that are proposed in
9 this rulemaking?

10 A. Yeah. That's -- that's essentially the
11 same answer is that you don't want to call to
12 remediate to the standard until you know what the
13 standard you're trying to reach is.

14 Q. Okay. And is it correct to say that the
15 Bureau of Land will be doing such an assessment,
16 but no assessment will be done in part with the
17 part Rule 620 rulemaking?

18 A. That's correct, the Bureau of Land and
19 those programs.

20 Q. Okay. And when you say those programs,
21 are you talking about Part 742? Is there anything
22 else you're talking about there?

23 A. I don't know. I'm assuming the -- this is
24 an assumption. It would include landfills. I

1 don't know if those are under 742 or not. I can't
2 recite to you all the cleanup programs from Bureau
3 of Land, so . . .

4 MS. JOSHI: Okay. Thank you. I don't have
5 anything further.

6 MR. DUNAWAY: AND, if I could, I'd also like to
7 refer you to the Statement of Reasons under
8 Section 6, begins on Page 22 of Statement of
9 Reasons.

10 HEARING OFFICER HORTON: Okay. Are there any
11 other participants apart from the Board in Chicago
12 who have general follow-up questions?

13 MR. PAULEY: No.

14 HEARING OFFICER HORTON: Mr. Pauley is shaking
15 his head.

16 Mr. Rao, do you have any general follow-up
17 questions?

18 MR. RAO: No, I don't.

19 HEARING OFFICER HORTON: Okay. Great. So I
20 think at this time we'll move through the Part 620
21 section by section for specific questions, and I
22 will bring my binder over here.

23 Okay. So the first section I believe that
24 has amendments to it is 620.110 definitions. Are

1 there any specific questions regarding definitions
2 from participants here in Springfield?

3 MR. ANDES: Clarifying --

4 HEARING OFFICER HORTON: Could you actually
5 come up? I'm sorry. We'll have more mics in a
6 bit.

7 MR. ANDES: My clarifying question was about
8 the process. I mean, the bulk of the questions I
9 think relate to specific standards, particularly
10 the ones for PFAS substances, but not exclusively
11 for those. How our questions are grouped more in
12 terms of our issues as a party. So we were
13 suggesting that perhaps we could go through all the
14 questions for a particular -- from particular
15 parties rather than going sort of section by
16 section through the regulations.

17 Obviously up to the Board to decide how do
18 that, but I know a lot of our questions go to just
19 a few specific sections. And a lot of us will have
20 questions about those sections.

21 HEARING OFFICER HORTON: I'd like to try it
22 this way. We've done it this way I think mostly in
23 the past. And so when we get to your section that
24 you'll have a lot of questions, then it'll be your

1 time to shine, but I think -- I think certainly if
2 most questions are grouped in one section, we'll
3 travel through the sections quickly and get to
4 those if there aren't a lot of follow-up questions
5 for the earlier ones.

6 Are there any questions on definitions in
7 Chicago?

8 MR. RAO: Yes.

9 BY MR. RISOTTO:

10 Q. Steve Risotto, ACC, again. And this is a
11 question in -- one of the questions we submitted.
12 And it relates to the definition for no observable
13 adverse affect level and lowest observable adverse
14 effect level.

15 In both of those definitions, it stresses
16 the importance of statistical significance which we
17 wholeheartedly agree with. And so we asked in our
18 question if, you know, if that is was applied in
19 this case. And the response was from my -- from
20 EPA was that we're not using the lowest and no
21 adverse observable effect level in setting these
22 levels, but in fact you are because the sources for
23 your numbers depend on a low L, a no L, or a
24 benchmark dose lowest effect level.

1 **So do you look at those source materials**
2 **to determine if, in fact, the values are based on**
3 **statistically significant effects?**

4 BY MS. HAWBAKER:

5 A. We are basing the values on the hierarchy
6 of the sources which have been accepted by the
7 particular groups that issued the toxicity values.
8 The answer that we supplied we geared more towards
9 the fact that the low L and no L or benchmark
10 dosing procedures. We're not using those
11 procedures that are set in Part 620 to do it where
12 it's referencing the low L and the no L, but we
13 rely again on the toxicity source that we use for
14 those.

15 **Q. So you're not looking specifically at the**
16 **effects that are the basis result from**
17 **statistically significant results?**

18 A. I believe the toxicity studies do that.

19 **Q. Okay. Second question on the new**
20 **definition for mutagen, it stresses the need for a**
21 **mutagenic action and the exhibiting greater effects**
22 **in early life, yet the substances -- the reference**
23 **for those few substances that are considered**
24 **mutagens is basically EPA, what EPA is a mutagen**

1 with no reference to whether there is data
2 supporting that those substances exhibit greater
3 effects in early life.

4 Is Illinois EPA looking specifically at
5 the data for those substances to determine if there
6 is evidence for greater effects in early life or
7 depending solely on EPA's designation?

8 A. We are now -- I'm sorry. I interrupted
9 you. Could you repeat the last part of your
10 question?

11 Q. Okay. Are you looking at the data for the
12 substance or depending on solely on EPA's
13 designation?

14 A. We're dealing solely with EPA's
15 designation as a mutagen. This is all part of
16 shifting our toxicity assessments for both Part 742
17 and Part 620 to be consistent. And so when we are
18 moving with Part 742 towards the original screening
19 level method that USEPA used for this, we're
20 relying on them as to what they consider to be a
21 mutagen, and we will be aligning what our mutagens
22 are with them.

23 MR. RISOTTO: Okay. Thank you.

24 HEARING OFFICER HORTON: This is Vanessa

1 Horton.

2 Any further questions in Chicago on the
3 definition section?

4 MR. PAULEY: No.

5 HEARING OFFICER HORTON: Okay. We'll move on
6 to Section 620.125, incorporations by reference.
7 Any questions here in Springfield on incorporations
8 by reference? Any follow-up questions? I don't
9 see any.

10 Any questions in Chicago on incorporations
11 by reference?

12 MR. PAULEY: Yes.

13 MR. ROSOTTO: All right. Steve Risotto, ACC
14 again, my apologies. And this is in reference to
15 ACC's Prefiled Question 2 about the analytical
16 methods used for measuring PFAS in water other than
17 drinking water. And the IEPA's answer references
18 method -- EPA Method 8327 which was an omission on
19 our part, but I noticed that that method is not
20 included in the reference -- in the incorporation
21 by reference section.

22 Was that an oversight or was there a
23 specific reason for not including that in the in
24 Section 0.125?

1 BY MS. HAWBAKER:

2 A. It should have been included. I thought
3 it was.

4 MR. RISOTTO: I did not see it. Thank you.

5 HEARING OFFICER HORTON: Mr. RAO, did you have
6 questions on incorporation by reference?

7 MR. RAO: Yes. I have a follow-up to one of
8 the agency's responses to the Board's question.
9 It's Question Number 16. We had asked the agency
10 to identify all incorporated documents in the rule
11 text also, and the agency said that if the Board --
12 if that's the Board practice, they will do so.

13 And I just want to, you know, ask the
14 agency to list all incorporations by reference
15 documents in sections where the documents are
16 applicable instead of just listing it under
17 Section 620.125.

18 MS. HAWBAKER: I'm sorry. Can you repeat the
19 question?

20 MR. RAO: It's not a question. Actually, the
21 agency asked a question in its response to the
22 Board as to what the Board's preference would be
23 and how these incorporations by reference documents
24 should be cited in the rule language, and basically

1 I'm responding to your question in your response
2 saying that we would like to see the documents
3 under 620.125 to be also cited in the section where
4 it is used. If you look at your response to
5 Question 16, you may see the context.

6 HEARING OFFICER HORTON: We can do that.

7 MR. RAO: Thank you. That's all I have.

8 HEARING OFFICER HORTON: Okay. Great.

9 Any further follow-up questions for
10 incorporations by reference in Chicago?

11 MR. PAULEY: No.

12 HEARING OFFICER HORTON: Okay. We'll move on
13 to Section 620.210, Class 1, potable resource
14 groundwater. Any -- oh, Miss Brown, a question?

15 BY MS. BROWN:

16 **Q. This is Melissa Brown with Illinois**
17 **Environmental Regulatory Group, and we just had**
18 **kind of a general question regarding wellhead**
19 **protection areas. And in response to the Illinois**
20 **Pollution Control Board's Prefiled Question 7 and**
21 **7A which references wellhead protection areas as**
22 **being three-dimensional, but also in the response**
23 **the agency states that the agency has delineated**
24 **wellhead protection areas in the state. Community**

1 water supplies may have two different types of
2 wellhead protection areas. Every community water
3 supply well has a Phase 1 wellhead protection area
4 which has an arbitrary fixed radius of 1,000 feet.
5 And then later on the answer goes on to discuss
6 another area, the maximum, sorry, the maximum
7 setback zones that extend to as much as 2,500 feet.

8 And I guess my question is, with these
9 wellhead protection areas being three-dimensional,
10 is there a depth restriction, and is this radius
11 also, you know, the restriction of 1,000 feet or
12 25,000 or 2500 feet, excuse me, also concerning the
13 depth in that these wellhead protection areas can
14 also potentially include, you know, ripping deep
15 down in the earth that could affect carbon projects
16 or deep aquifers or things of that sort?

17 BY MS. DUNAWAY:

18 A. This is Lynn Dunaway.

19 The depth would depend on the depth of the
20 aquifer that's being used by the community water
21 supply.

22 Q. So that would be site specific?

23 A. Yes.

24 Q. But there is a depth restriction?

1 A. Yes. It would be -- it would be no deeper
2 than the depth of the community water supply.

3 MS. BROWN: Okay. Thank you.

4 MR. RAO: I have a follow-up on the same
5 response to Board's Question 7A.

6 BY MR. RAO:

7 **Q. Towards the end of the response, the**
8 **agency states that it's the agency's position that**
9 **an instance of 2,500 foot maximum setback zone**
10 **under the definition in Section 620.210 A5, the**
11 **agency states that only the inner 1,000 feet of the**
12 **maximum setback could be considered for Class 1**
13 **groundwater classification.**

14 **Can you please explain why you want to**
15 **limit it to the inner 1,000 feet instead of going**
16 **all the way to the 2,500 maximum setback zone?**

17 BY MR. DUNAWAY:

18 A. The difference -- the reason we would
19 limit it to the 1,000 feet is because wellhead
20 protection areas as part of the program also
21 includes -- includes a source inventory. And also
22 with the 2,500 foot setback zones, the management
23 is different beyond a thousand feet. The 2500 foot
24 maximum setback zones beyond a thousand feet only

1 regulate potential routes. In the specifics with
2 regard to the -- those 2,500 foot zones is that the
3 community well also has to be within 1,000 feet of
4 a public waterway.

5 So those -- with those restrictions and
6 also by virtue of the fact that maximum setback
7 zones are based on a radius of influence. You may
8 get a drawdown in the groundwater surface based on
9 your calculations; however, that water may never
10 actually reach -- may never enter the well which is
11 sort of contrary to how the Phase 2's are done
12 where the modeling actually -- the water will enter
13 that particular well.

14 So it was -- it's a matter of influencing
15 the water level in the aquifer versus actually
16 pulling it into the well. So we thought that the
17 thousand foot was a more reasonable -- a more
18 reasonable limit when there were 2500 foot maximum
19 setback zones.

20 **Q. Does the proposed language reflect the**
21 **agency's intent?**

22 **When I was reading the rules, it seemed**
23 **like the 2500 foot setback would be included as**
24 **Class 1.**

1 A. It's possible that we may need to
2 refine -- refine the definition.

3 **Q. Yeah. I really appreciate it if you could**
4 **take a look at the proposed language and see if the**
5 **agency can reflect that in the rules.**

6 A. We'll do that.

7 MR. RAO: Thank you.

8 HEARING OFFICER HORTON: This is Vanessa
9 Horton.

10 Any further follow-up questions on 620.210
11 in Chicago?

12 MR. PAULEY: No.

13 HEARING OFFICER HORTON: Okay. Moving on to
14 Section 620.250, Groundwater Management Zone. Any
15 questions here in Springfield, follow-up questions
16 on groundwater management zones?

17 Mr. Andes?

18 BY MR. ANDES:

19 **Q. So in the Proposed Subsection G9**
20 **concerning remedy, it states that an application**
21 **for groundwater management zone needs to include**
22 **results of groundwater contaminant transport**
23 **modeling or calculations showing how the selected**
24 **remedy will achieve compliance with the applicable**

1 groundwater standards. It also -- there's a
2 statement about groundwater at the facility will be
3 monitored following implementation of the remedy to
4 ensure that groundwater standards have been
5 attained.

6 So I just want to confirm, that appears to
7 require that in general under that section you
8 would have to attain the groundwater standards, the
9 applicable groundwater standards, which would
10 include the proposed numeric standards for PFAS,
11 correct?

12 BY MR. DUNAWAY:

13 A. This is Lynn Dunaway.

14 Yes, that's correct.

15 MR. ANDES: Thank you.

16 HEARING OFFICER HORTON: Any further questions
17 in Springfield on groundwater management zone?

18 All right. Chicago, any questions on this
19 section?

20 MR. PAULEY: No. Sorry.

21 MR. RAO: I just wanted to let the agency know
22 that the Board has a series of questions on the
23 language in Section 620.250 and also based on the
24 responses we received from the agency. And these

1 questions, they involve a lot of little language
2 changes and things like that which may be, I think,
3 helpful for the agency to see our questions in
4 writing. So we will prefile these questions so
5 everybody can see it, and maybe the agency can
6 respond to those questions in writing on the next
7 hearing. Would that be acceptable?

8 MR. DUNAWAY: Do you have any idea how many
9 questions there will be?

10 MR. RAO: About 15 or 20 guess.

11 MR. DUNAWAY: Yes, we can do that.

12 MR. RAO: A little bit of preamble on many of
13 those questions, that's the reason why I thought it
14 would be better to submit them in writing so people
15 can look at it, and you can respond to it.

16 MR. DUNAWAY: Okay. And we appreciate that.
17 Thank you.

18 MR. RAO: Okay. Thanks.

19 HEARING OFFICER HORTON: Okay. Moving on to
20 Section 620.302, Applicability of Preventive
21 Notification and Preventive Response Activities,
22 any questions here in Springfield on that
23 Section 620.302?

24 MR. RAO: Going twice.

1 HEARING OFFICER HORTON: Okay. Any questions
2 in Chicago on 302?

3 MR. PAULEY: No.

4 HEARING OFFICER HORTON: Okay. Yes, oh, I'm
5 sorry, Miss Manning.

6 BY MS. MANNING:

7 Q. This is Claire Manning from the National
8 Waste and Recycling Association. While we will
9 have more questions and answers as follow-up to our
10 answers the agency filed on our questions, we do
11 have an immediate question related to the agency's
12 proposed 620.302. And particularly the agency's
13 answer to Board Question Number 25, which involved
14 the applicability of preventive notification and
15 preventive response activities.

16 In response to the Board's question, the
17 Board pointed out that the listing appeared to be
18 not inclusive in terms of the inapplicability of
19 the Section 620.302, and the agency responded
20 saying certain programs like others contain their
21 own procedural requirements regarding groundwater
22 monitoring and activities that must be conducted
23 when groundwater contamination is detected; in
24 other words, they do not need to rely on the

1 requirements under Part 620 because there are other
2 requirements already applicable, and those programs
3 are of course are the landfill programs and site
4 remediation programs and that kind of thing.

5 What we'd like to know is what the
6 agency's intention is related to the change that
7 it's making in 620.302 B1 where it states that an
8 owner and operator of a regulated entity for
9 groundwater quality monitoring shall be performed
10 pursuant to state or federal law, and it gives
11 examples of 615, 616, and 807, which is of course
12 the old landfills. But yet in the next sentence
13 then it -- it also includes -- includes also in 807
14 is included in that section.

15 So what is the agency's intention with the
16 a change to B1 as it -- in response to the Board
17 questions?

18 BY MR. DUNAWAY:

19 A. This is Lynn Dunaway.

20 I'm not sure if I understand your
21 follow-up question. This is -- this is a list of
22 programs that do groundwater monitoring, so it is
23 not necessarily a comprehensive list.

24 Q. Are you suggesting, though, that 620.302

1 is not applicable then to 807 and 811 landfills,
2 that particular applicability of preventive
3 notification and preventive response activities?

4 As I read B1, that section is not
5 applicable to 811 and 807 where there's already
6 groundwater monitoring.

7 A. One moment, please.

8 The elimination of some of those programs
9 is explained further along where it discusses that
10 the Subsection B1 does not apply to the
11 owner/operator and the program specific
12 requirements regarding groundwater, and those are
13 listed there that have program specific
14 requirements.

15 So if it's not listed in the group that
16 says -- and it's not listed in that -- there are
17 two groups. Some of them have sites or have
18 program specific requirements. Some of them do not
19 have program specific requirements. So it would
20 behoove the person in the program to know what
21 their program requires.

22 Q. I'm sure those operated some --

23 (Reporter clarification.)

24 MS. MANNING: Okay. Thank you.

1 BY MS. MANNING:

2 Q. The question then is, is that second group
3 which is I assume you mean the second sentence of
4 B1, correct?

5 A. Correct.

6 Q. Is that intended to suggest that those
7 programs that are listed in that second section
8 will continue to do groundwater monitoring pursuant
9 to their programs, and the 620 regulations are not
10 intended to change any of the program requirements
11 that are currently under these programs?

12 A. That sentence would mean that those -- the
13 second sentence those listed in that part, it would
14 be 620.302 would not apply to not -- none of
15 Part 620.

16 Q. Okay. So the groundwater quality
17 standards that are being proposed would still be
18 applicable, but applicable pursuant to the program
19 requirements and the groundwater monitoring
20 requirements that are subject to that program?

21 A. That's correct.

22 MS. MANNING: Okay. I may have further
23 follow-up questions, but not now. Thank you.

24 HEARING OFFICER HORTON: Okay. I don't think

1 there are any other questions in Chicago on 302, so
2 we'll move on to Section 620.310, Preventive
3 Response Activities.

4 Mr. Andes?

5 BY MR. ANDES:

6 Q. So I'd like to state my understanding of
7 how 620.310 will work for PFAS substances once they
8 are included as they are in the proposal in that
9 section, and my understanding is that, first, the
10 preventive response activity requirements can be
11 triggered by statistically significant increase
12 above background for any of those substances, then
13 the agency will determine if a preventive response
14 has to be undertaken and may require that. And
15 then after indication of the response, generally
16 the concentration cannot exceed 50 percent of the
17 applicable numeric standard unless certain
18 conclusions are met; is that correct?

19 BY MR. DUNAWAY:

20 A. If I could get 620 in front of me, I
21 believe it says it may exceed 50 percent, but --

22 Q. I believe this says it may exceed
23 50 percent only if three conditions are met,
24 including minimizing the exceedances to the extent

1 **practical.**

2 A. Yes.

3 **Q. So basically under this provision, a party**
4 **may be required to take action, and that action may**
5 **require them to bring the levels down to 50 percent**
6 **of the applicable standard, correct?**

7 A. No. If they exceed a statistical -- if
8 they have -- exceed background in the statistically
9 significant way, there may be preventive response
10 actions required. Once those actions are taken and
11 those actions have minimized to the extent
12 practicable, then the value may exceed 50 percent
13 of the applicable standard.

14 Now, keep in mind, the purpose of this
15 section is nondegradation. The goal is to not to
16 allow contamination up to the standard. So that's
17 why all substances are listed here. Because if
18 they have concentrations that the lowest
19 concentration that can be reliably measured is
20 already at or above the health base number, then
21 they're not listed in here because you already have
22 a health problem out there. So you can't allow it
23 to continue to exceed. However, for those that
24 have a health-based standard above what is -- can

1 be detected in the background, then those, the goal
2 would be to keep from meeting and going up clear to
3 the standard.

4 Q. Thank you.

5 Yeah. I'm just trying to determine which
6 provisions here may require actions to be taken as
7 to PFAS, and it sounds like at least in some
8 circumstances this provision would require action
9 to be taken to address PFAS levels?

10 A. Yes.

11 MR. ANDES: Thank you.

12 HEARING OFFICER HORTON: Any other questions on
13 310 here in Springfield?

14 In Chicago, any questions on 310?

15 MR. RAO: Yes.

16 BY MR. RISOTTO:

17 Q. Steve Risotto, ACC, and this relates to
18 our Prefiled Question 3 in reference to 0.310,
19 Subsection 3, which uses the terms statistical
20 significance in background. And apologies for our
21 unfamiliarity with the specific program
22 requirements that EPA refers to in their response
23 to our question, but I guess a simple question.

24 For an anthropogenic substance, a manmade

1 **substance, is the background value zero or could it**
2 **be above zero?**

3 BY MR. DUNAWAY:

4 A. This is Lynn Dunaway.

5 For anthropogenic substance there would
6 obviously -- there would not be a natural
7 background. It was manmade. However, on a site
8 specific basis, a particular individual may not be
9 responsible for meeting zero because there are
10 other sources. So through their groundwater
11 monitoring program they can demonstrate that they
12 are not contributing to that concentration.

13 Q. Okay. Thank you.

14 So it's really the individual's
15 contribution to the contamination, not the over --
16 not the general contamination?

17 A. Correct.

18 Q. And then on statistical significance, I
19 mean, typically you are doing groundwater
20 monitoring, you know, perhaps every -- quarterly.
21 Is there -- you know, what is the general rule of
22 thumb? Is it, you know, two quarters in a row? Is
23 it -- I mean, how -- we have not seen that sort of
24 terminology used before for this type of

1 **monitoring. How would it typically work?**

2 A. Well, we have incorporated the unified
3 guidance reference into the groundwater quality
4 standards or at least we have proposed that. And
5 typically the minimum requirement would be that you
6 would have eight samples in order to establish a
7 background, but from that point statistical
8 significance would be based on the statistical
9 method that's actually employed to determine -- to
10 evaluate your background and your compliance.

11 MR. RISOTTO: Okay. Thank you. And apologies
12 for our lack of familiarity with the state
13 requirements, but that's helpful. Thank you.

14 HEARING OFFICER HORTON: Any further questions
15 on 310 in Chicago?

16 MR. PAULEY: No.

17 HEARING OFFICER HORTON: Okay. Moving on to
18 Section 620.410, Groundwater Quality Standards For
19 Class 1 Potable Resource Groundwater, any questions
20 here in Springfield? Yes?

21 MR. ANDES: I guess I have another question.
22 In this provision there is a long list of
23 substances. There are actually a lot of questions
24 regarding the PFAS substances, which come in Ps, so

1 they're not first in the alphabet. I know there
2 are some the questions regarding other substances
3 that come before PFAS, and I think there were also
4 some questions that are sort of generic about the
5 way in which chemicals are regulated under this
6 provision.

7 So I don't know how you all want to
8 address that, but the PFAS questions I think will
9 go on for quite a while focused on that. So I
10 don't know if you want to move that to later and
11 have others first, but wanted to raise that issue.

12 HEARING OFFICER HORTON: Do other participants
13 have questions on this section, and perhaps we can
14 do those first?

15 In Chicago are there questions on 410?

16 MR. RAO: I have a follow-up question.

17 MS. JOSHI: I have some questions, too.

18 HEARING OFFICER HORTON: I'll propose this --
19 Miss Manning, do you also have questions on 410?

20 MS. MANNING: No. I was going to reiterate the
21 concern Mr. Andes raised. I'm finding it very
22 difficult to sort of look at a section and then
23 develop questions on the section when we spent a
24 lot of time with our clients developing specific

1 questions that were then answered by the agency,
2 and we didn't develop those section by section.

3 So we're thinking that the better, more
4 understandable approach for the record might be
5 that we -- you know, as the questions were asked
6 and answered, that we do follow-up questions
7 related to those, but I understand if the Board
8 wants to do something different. That's fine.
9 We're just finding it difficult to ask the right
10 questions at the right time.

11 HEARING OFFICER HORTON: No problem. I think
12 it makes for a better record if we go through
13 section by section so our transcript will be in
14 that order. I appreciate the multiple questions on
15 the section, so I can turn the floor over to
16 Mr. Andes. And then we can break for lunch at noon
17 and pick up and see where we are after that.

18 I'll make one follow-up point, and I
19 certainly appreciate Miss Manning's point. And at
20 the end once we're through all the sections, we
21 will circle back to see if anybody has further
22 follow-up questions. So there will definitely be a
23 time if there aren't questions that fit into
24 sections, that will be the time.

1 MR. ANDES: As an initial matter, and I know
2 we'll discuss process issues further in terms of
3 later hearings, but one point that we do want to
4 make at this point is that we can rely -- we, the
5 PFAS Regulatory Coalition, but I know other parties
6 as well, had relied on parties at the time of the
7 Board order include that all answers to our
8 questions would be filed last Friday.

9 We had put aside the weekend to review
10 those answers and develop our follow-up questions.
11 We were not able do that as our answers were not
12 made available until Monday. Some answers were not
13 even made available until yesterday.

14 So given that the Board's process was not
15 followed, we strongly believe that we will need
16 further hearing dates because, for example, my
17 scientists have not had an opportunity, certainly
18 not an adequate opportunity, to review the answers
19 that were submitted late by the agency. We want to
20 have that opportunity so our members can review and
21 evaluate the answers and provide further follow-up
22 questions which we simply could not do by today.

23 HEARING OFFICER HORTON: That's appreciated,
24 but I believe we discussed it at the beginning, and

1 we will discuss again after lunch to see where we
2 are. And I certainly appreciate that. We'll do
3 our best to accommodate everyone.

4 BY MR. ANDES:

5 Q. So our first question related to why the
6 proposed standards for PFAS substances, are orders
7 of magnitude more stringent in the first version of
8 proposed standards which were released in December
9 2019. In the answer the agency provided
10 explanation to some issues. One of them was
11 changing from, as I understand it, assumptions
12 based on average adults to assumptions based on
13 children.

14 Okay. One question we had raised in our
15 comments on that issue was questioning whether, in
16 fact, that was appropriate. Another reason is the
17 oral slope -- are based on the flow --

18 (Reporter clarification.)

19 BY MR. ANDES:

20 Q. So one of the objections we had to
21 changing these assumptions which was raised I
22 believe in our second set of comments on the
23 agency's proposals was that this use of
24 age-adjusted exposure factors was not appropriate

1 because the oral slope factors being used are based
2 on a default linear low dose extrapolation using
3 mutagenic modes of action, so therefore there is no
4 need to do an age adjustment of the exposure
5 factors.

6 We have not seen a response to that
7 concern in the agency's answers, so we'd like to
8 understand the agency's thoughts on that issue.

9 BY MS. HAWBAKER:

10 A. Yes. When you're coming from the
11 carcinogens and the mutagens, those equations and
12 the age adjusted exposure factors come straight
13 from the USEPA regional screening levels. This is
14 the methodology that they use which is the
15 methodology that we have chosen to use to align
16 for -- to be accustomed with the regional screening
17 levels.

18 Now, for the noncancer ones, again, USEPA
19 regional screening levels use child exposure, and
20 then they also use adult exposure, and then they
21 use the most stringent. The most stringent is the
22 child which should be protected as well as the
23 adult.

24 Q. But as -- well, so that approach was not

1 used initially, but was modified. And I guess I'm
2 wondering why if that was the EPA approach, why was
3 that changed, and aren't there -- most states don't
4 use that particular adjustment?

5 A. I don't know if they do. I just know that
6 USEPA does, and the adjustment is because USEPA
7 adjusted it.

8 Q. So EPA between the first proposal and the
9 second proposal, EPA made that change in their
10 methodology?

11 A. No. We made that change in our
12 methodology after listening to comments about more
13 sensitive receptors such as a child.

14 Q. And the comment was raised after the
15 second proposal saying this is not appropriate for
16 the following reasons. There were rationales,
17 well, this is because EPA does it?

18 A. Yes. We were trying to align with the
19 regional screening levels that because a lot of the
20 groundwater quality standards are also used in
21 Section 742, and that's why it was altered to do
22 that and to be again more protective of sensitive
23 populations.

24 Q. Although, on others deviated from the

1 **USEPA, correct?**

2 A. I'm not sure how. Could you be more
3 specific?

4 **Q. Some of the values where you've chosen to**
5 **adopt the ATSDR or other California EPA studies,**
6 **others that are not done in the same way as the**
7 **USEPA numbers are done?**

8 A. The USEPA approves those studies. It's
9 within their toxicity hierarchy, and they also use
10 them on a regular basis for several other
11 chemicals.

12 **Q. They've used -- the ATSDR values, they**
13 **have different values than ATSDR's?**

14 A. No. They used ATSDR values several times
15 for developing exposure routes within the
16 RSO equations.

17 **Q. They haven't used them in the context of**
18 **developing numbers for the PFAS substances. The**
19 **ATSDR numbers are markedly more stringent than the**
20 **USEPA numbers, correct?**

21 A. Than the 2016 USEPA numbers, yes, because
22 that was much older data in 2016.

23 **Q. You're aware that the State of Wisconsin**
24 **just decided to, in fact, adopt standards using the**

1 **EPA's 70 parts per trillion.**

2 **(Reporter clarification.)**

3 MS. HAWBAKER: I believe USEPA has a guidance
4 level lower than that for Wisconsin. I could be
5 incorrect about that. I would have to have look it
6 up.

7 BY MR. ANDES:

8 **Q. I believe, and we will certainly submit**
9 **for the record the actions by the Natural Resources**
10 **Board in Wisconsin, but those are groundwater**
11 **standards that the Board just adopted in 70 parts**
12 **per trillion, so we'll submit it for the record.**

13 A. And it would depend on how they consider
14 groundwater because Class 1 groundwater for us is
15 potable groundwater which means it is drinking
16 water. It's water used for drinking standards.

17 So it depends on how Wisconsin would rely
18 on the groundwater standards for that case, but
19 what we do is we consider the Class 1 standards to
20 be potable; i.e., drinking water, safe for someone
21 to install.

22 **Q. I believe it's comparable in Wisconsin,**
23 **but we'll submit that information for the record.**

24 A. And again Illinois has its own procedure,

1 whereas Wisconsin has their own procedure.

2 **Q. Absolutely true.**

3 So then in terms of the -- in terms of the
4 proposal that -- and as I focus on some issues with
5 the answer to our Question 1, as to five -- or, I'm
6 sorry, now six posed standards for PFAS, putting
7 aside GenX where there was not one in the
8 December 29 draft, it appears to me that the
9 standards from PFAS went down by a factor of about
10 a hundred for PFAS --

11 **(Reporter clarification.)**

12 MR. ANDES: The standards for PFBS and down by
13 a factor of about a hundred as opposed to PFOA
14 which went down by a factor of about ten, the other
15 three substances, the numbers went down by a factor
16 of about two; is that correct?

17 A. Approximately, yes.

18 **Q. Thank you.**

19 Now, in answering our question, we asked a
20 question about comments submitted by the
21 PFAS Regulatory Coalition, as well as other parties
22 on that first proposal, and asked how the agency
23 considered and addressed each of the comments that
24 were submitted. The agency has not done any

1 specific written responses to any of those
2 comments, correct?

3 A. No. We -- I don't believe we were
4 required to. I could be wrong.

5 Q. Might be a good practice, but I just
6 wanted to confirm that specific responses to those
7 comments were not developed. And when we asked how
8 the agency considered and addressed each of the
9 comments, the answer was the agency reviewed all
10 comments including those submitted by
11 PFAS Regulatory Coalition. We still don't see any
12 specific responses to our comments.

13 The agency states here that Part 620
14 standards are groundwater standards, not drinking
15 water standards, and are governed by the
16 Groundwater Protection Act. I'm not sure how that
17 responds to the comments. Perhaps that can be
18 explained.

19 A. I think you need to provide a specific
20 comment. In general, several of the comments did
21 not warrant an extra change per the regulations.

22 Q. But can you identify for us which ones the
23 agency considered and addressed versus the ones you
24 believe didn't merit --

1 A. Our response is in the proposal.

2 **Q. But not specific as to the issues raised**
3 **in those comments, correct?**

4 A. No. We reviewed all comments. Several
5 comments we decided to discard because the comments
6 were not gonna be relevant to updating this
7 proposal.

8 **Q. Can you identify for us going forward**
9 **which comments were discarded as not relevant?**

10 A. I don't have all the comments. Do you
11 have a specific comment that you have a question
12 on?

13 **Q. Well, we can go through every page of both**
14 **sets of comments that our group filed, but we think**
15 **the best course of action would be for the agency**
16 **to file a document explaining how it considered and**
17 **addressed if it -- if the agency went out for**
18 **comments twice, but then will not explain how it**
19 **addressed or discarded the comments that were**
20 **submitted, that doesn't appear to be a practice**
21 **that should be followed, and we would ask that we**
22 **get specific responses to our comments.**

23 A. This normally doesn't happen in the
24 rulemakings. It hasn't happened previously in

1 other rulemakings for the outreach. But we do
2 solicit comments, and then we consider them when
3 we're submitting our proposal. But several of the
4 comments were not -- you know, were more along the
5 lines of shall we wait. Again, questions about
6 carcinogenicity for PFOA which is clearly within
7 the regulations, things like that that are already
8 addressed either within the regulations or within
9 our testimony and our statement.

10 **Q. The regulations don't explain anything, so**
11 **they don't address comments. It would be helpful**
12 **to understand which issues the agency believes have**
13 **been addressed by which responses and which**
14 **questions the agency decided to be discarded as not**
15 **relevant or not worthy of response.**

16 A. Well, if you could provide me a comment
17 that you have a question on, it would be helpful.

18 **Q. Well, we submitted comments.**

19 A. Yes. Do you have something specific that
20 you can ask?

21 (Reporter clarification.)

22 MR. ANDES: I mean, we can certainly file a
23 document explaining that.

24 MS. TERRANOVA: We'd like to object at this

1 point that he's asked this question over and over,
2 and we are just submitting that our responses were
3 in our Statement of Reasons, and that if there are
4 any particular questions or comments, that this is
5 the forum that they can be asked. And Carol has
6 said if you have a particular question that was
7 previously submitted, and you don't feel was
8 addressed in the Statement of Reasons specifically,
9 please ask that now and point her to which question
10 and she can answer.

11 (Reporter clarification.)

12 MS. TERRANOVA: This is Sara Terranova, counsel
13 for Illinois EPA.

14 HEARING OFFICER HORTON: Objection granted.
15 We'll just move on to the next question, and if you
16 have a specific follow-up, that can be addressed in
17 posthearing briefs.

18 MR. ANDES: Thank you.

19 BY MR. ANDES:

20 **Q. In our Question 3, we asked similar**
21 **questions about the comments -- the second round of**
22 **comments that we submitted to the agency, and how**
23 **those were addressed, I assume that in general the**
24 **agency's answer was the same which is they -- some**

1 of them and discarded others within these filings.
2 We will plan to identify in posthearing briefs, if
3 necessary, the other questions that have not been
4 responded to and would ask the agency to explain
5 why it discarded them.

6 One that's mentioned here referred to it
7 earlier in the questions is that USEPA Office of
8 Water has submitted draft updated toxicity studies
9 for peer review and want to confirm that the agency
10 has not viewed the documents involved within the
11 peer review before the SAB, and we commit that the
12 agency will, in fact, review all those documents
13 because we can submit them for the record if you
14 need to.

15 BY MS. HAWBAKER:

16 A. No, they're available on line I'm sure.

17 And one thing is again the USEPA Office of
18 Water is an unranked Tier 3 source, so it will be
19 evaluated as such.

20 Q. So in answer 4 -- Question 4, we had asked
21 how the agency calculated the proposed standards
22 and risk --

23 (Reporter clarification.)

24 MR. ANDES: Question 4, you asked how the

1 agency calculated the proposed standards including
2 how the risks to different organs were added
3 together to yield the final values. That was based
4 on our understanding and review of the documents
5 that -- the organs considered in developing the
6 proposed values for various substances.

7 We expressed some concerns about using
8 that additivity assumption, but as I read the
9 answer to Number 4 it appears that the agency
10 states that the groundwater standards for PFAS are
11 based on individual values and are not added
12 together to yield final values.

13 So can you explain whether and -- if and
14 whether an additivity assumption -- adding
15 different risks together to different organs was
16 considered in developing the values.

17 A. No. It's not a part of the criteria for
18 Part 620 when you develop the individual standards.
19 Never has been.

20 **Q. So that issue and -- which I recall being**
21 **in earlier proposals?**

22 A. Additivity, well, with the combined
23 standard for --

24 **Q. Yes.**

1 A. -- PFO and PFAS?

2 Is that what you're referring to?

3 Q. The appendix to the proposal that referred
4 to looking at each organ and how they were affected
5 and you could consider risk to two organs, so
6 that's what I'm referring to.

7 A. Yeah. That's after the development of the
8 standards. What it is is if you find in the
9 groundwater two or more contaminants that affect
10 the same target organ or have the same hazard, then
11 you would do the -- what we call the mixture roll,
12 and that's where you account for dositivity.
13 Additivity, I apologize.

14 Q. All right. So then the ultimate
15 requirements it could apply to any particular site,
16 could be significantly more stringent if there
17 were, say, two or three or four pollutants found
18 that could be -- the standard could be very, very
19 low, lower than the standards for any individual,
20 correct?

21 A. Yes, that is correct. That's how it's
22 done in 742, and that's how it's been done since
23 1991 when the rules were promulgated in 620.

24 Q. Well, there were issues raised not only by

1 us, but by other parties as well about whether it
2 is scientifically justified to do that unless you
3 know that they are targeting both the same organs
4 and the same modes of action, but I see that issue
5 responded to here.

6 A. Yes. That's one of the requirements for
7 the mixture rolls. They have to have the same
8 point of action or the same target organ.
9 That's -- nothing's changed in the 620 regulations.

10 Q. Okay. So they have to affect the same
11 organ and have the same mode of action --

12 A. Or have the same mode of action.

13 Q. Or, okay. So the issue was raised by us
14 and I know by other parties that it was our
15 understanding that scientific principles say you
16 need the same organ and the same mode of action;
17 otherwise, they don't really work together?

18 A. Well, the way our regulations are set up
19 and the way they were since promulgation in 1991 is
20 it allows for either.

21 Q. Okay. So there's no response in any of
22 these answers to our concerns that that's not the
23 right scientific way to go?

24 A. No. These have been approved. These have

1 been promulgated. And we have not changed that,
2 no.

3 **Q. Okay.**

4 A. And, again, it's identical to the language
5 that we have in the Section 742.

6 **Q. We're actually asking, is the application**
7 **just a long list of the new substances and whether**
8 **it's justified in applying it, and that issue has**
9 **not been addressed?**

10 A. Well, this mixture roll applies for all
11 substances, not just PFAS. For example, PNAs, all
12 of the carcinogenic PNAs affect the same target
13 organ, the gastrointestinal system. We have the
14 same issues with other chemicals, and there doesn't
15 seem to be other concerns for any of the other
16 chemicals that we're having issues with, only PFAS.

17 **Q. Well, I've seen it raised as other**
18 **chemicals. And so what you're saying is this is**
19 **the policy that's been in effect for 20 years, and**
20 **that's what the agency plans to do?**

21 A. Yes. That's what we consider to be a
22 conservative protective method.

23 **Q. But you don't explain to me where in the**
24 **answers why you think that continues to be the case**

1 at this point.

2 A. No, because again it was promulgated in
3 1991, and we didn't see a need for a change.

4 Q. Wouldn't you review other things that were
5 promulgated 20 years ago?

6 A. Yeah. I've reviewed actually for this one
7 the whole -- all of the promulgations and 742.

8 Q. So has the agency reviewed any new studies
9 over the last 20 years concerning this additivity
10 issue and whether it's justified?

11 A. No. The additivity, what we've reviewed
12 has not indicated a need for a change.

13 Q. Have you reviewed further information or
14 is this simply something that's been in the rules
15 for 20 years, and it's --

16 A. Again, the same answer. It's we have
17 reviewed documents, and we do not see a need for a
18 change. This is a conservative approach, and we
19 prefer to take that.

20 Q. So next question of concern, EPA's current
21 lifetime drinking water of the advisory level for
22 PFOA and PFAS is 70 parts per trillion, and you are
23 you aware EPA is continuing to develop new numbers
24 including drinking water standards and other

1 **regulatory levels.**

2 **So the agency's contention is that the EPA**
3 **numbers are not protective of public health?**

4 A. No. Additional studies have shown that
5 they no longer are protected. Additional toxicity
6 studies that have been done have been done on
7 additional receptors and additional modes of action
8 and have shown that other modes of action have
9 actually proven to be even more concerning than
10 what those 2016 values were based on.

11 **Q. What other points of action are you**
12 **referring to?**

13 A. Well, the updated values that have been
14 submitted by USEPA for peer review now considered a
15 decreased response to vaccine to be the more
16 sensitive --

17 **Q. So --**

18 A. Mode of action.

19 **Q. -- is that a defined cost effect?**

20 A. Yes, it is.

21 **Q. Under Illinois regulations?**

22 A. No. Under Illinois we don't have specific
23 regulations. These are done with the toxicity
24 groups that develop the values. ATSDR also counted

1 a decreased response to vaccines, too, based on
2 their studies.

3 Q. So we will submit some of the
4 peer-reviewed agency -- whether that is a health
5 effect and should be the basis for standards, so
6 we'll have that discussion after the agency has
7 reviewed those peer-reviewed recommendations.

8 A. Yeah. I believe they were mentioned with
9 the ATSDR standards as well, and ATSDR agreed the
10 decreased response is a concerning toxicological
11 deploy.

12 Q. I think what we'll see in the peer review
13 of the experts this question that --

14 A. Well, ATSDR experts as well. So we will
15 see what the USEPA agrees with. Again, these are
16 still prepped. We don't know what they'll end up
17 with.

18 HEARING OFFICER HORTON: This is Vanessa
19 Horton.

20 We're right at noon, so why don't we break
21 for lunch, and then we'll reconvene at 1:00 p.m.,
22 and we'll begin with your questions.

23 MS. TERRANOVA: Thank you.

24

1 (WHEREUPON, a short recess was
2 taken.)

3 HEARING OFFICER HORTON: Just to start off, I
4 forgot to enter in the prefiled questions as
5 exhibits and the prefiled answers, so I'm just
6 gonna run through that right now just so we'll have
7 exhibit numbers for all of that.

8 All right. So we ended with Exhibit 3, so
9 we'll go to Exhibit 4 will be the American
10 Chemistry Council's prefiled questions.

11 Exhibit 5 will be the PFAS Regulatory
12 Coalition prefiled questions.

13 Exhibit 6 will be the Illinois
14 Environmental Regulatory Group prefiled questions.

15 Exhibit 7 will be the Board's prefiled
16 questions.

17 Exhibit 8 will be Dynegy's prefiled
18 questions.

19 Exhibit 9 will be the National Waste and
20 Recycling Association's prefiled questions.

21 Exhibit 10 will be IEPA's answers to the
22 Board's prefiled questions.

23 Exhibit 11 will be IEPA's answers to
24 IERG's prefiled questions.

1 Exhibit 12 will be IEPA answers to Dynegy
2 prefiled questions.

3 Exhibit 13 will be IEPA answers to PFAS
4 Regulatory Coalition questions.

5 Exhibit 14 will be IEPA answers to the
6 American Chemistry Council's questions.

7 And, lastly, Exhibit 15 will be IEPA
8 answers to the National Waste and Recycling
9 Coalition's prefiled questions.

10 And I will enter a hearing officer order
11 after this hearing listing out all the exhibit
12 numbers and names and such.

13 We had one request from the court reporter
14 in Chicago, if we're doing acronyms if we could
15 slow it down with spelling out the acronyms and
16 longer names of chemicals and such. So I think
17 that was it.

18 And if Mr. Andes is ready, we can begin
19 again with his questions. We've got a new
20 microphone setup back there, if you would like to
21 stay back there, or if you'd rather go -- okay.

22 Mr. Andes, if you would like to continue
23 with your questions, and we're on again
24 Section 620.410.

1 MR. ANDES: Yes. Some of the questions have
2 been addressed --

3 MR. PAULEY: Vanessa, that sounds kind of
4 choppy here.

5 HEARING OFFICER HORTON: No problem.

6 MR. PAULEY: Maybe off the record we could test
7 the microphones. Maybe it's something wrong with
8 the microphone.

9 HEARING OFFICER HORTON: Sure. Let's go off
10 the record.

11 (WHEREUPON, a discussion was had
12 off the record.)

13 HEARING OFFICER HORTON: Let's go back on the
14 record. Thank you.

15 BY MR. ANDES:

16 Q. Okay. Let's go to our Question 10 which
17 concerned PFAS based on different type of value,
18 the EPA arrived provisional peer-reviewed toxicity
19 value.

20 Our understanding -- I guess the first
21 question is our understanding these are
22 scientifically preferred to other values, but
23 I'm -- that's my first question to follow up on
24 here in terms of why that type of -- and that type

1 of value here is a much less stringent value than
2 some of the other pollutants.

3 So please discuss how these values compare
4 to other methods of deriving values.

5 BY MS. HAWBAKER:

6 A. First of all, this is Carol Hawbaker. And
7 PFAS is derived using the PPRTV toxicological value
8 which is a Tier 2 source on the system hierarchy.

9 It is -- we use PPRTV on a fairly regular basis
10 because again it is a Tier 2 source. It's the only
11 PFAS chemical, P-F-A-S chemical, that has a value
12 from PPRTV. And part of the changes with PPR --
13 with the PPRTV value was that group adjusted its
14 toxicological value. It reduced it. It reduced
15 it, and they were able to -- we were able to
16 develop new values with that.

17 Can you repeat the second part of your
18 question?

19 Q. So I guess first just to be clear, so the
20 PPRTVs are a preferred -- as a Tier 2 instead of a
21 Tier 3, you prefer to use the Tier 2 to a Tier 3,
22 correct?

23 A. That is correct. They are the Tier 2
24 hierarchy.

1 Q. Okay. And what are in the Tier 1?

2 A. The Tier 1 toxicity hierarchy?

3 Q. Yes.

4 A. IRIS, Integrated Risk Information Systems
5 that is USEPA as well.

6 Q. Okay. So the question is the PFBS value
7 which comes from that preferred group is a much
8 less stringent value than for some of the other
9 parameters which raises a question in our minds
10 about if one derived PPRTVs for other parameters,
11 they might be in a similar range as the one for
12 PFBS. So that's the question.

13 A. Not necessarily. There's a couple reasons
14 for that. One is PFBS being the shorter chain,
15 PFAS, P-F-A-S, it has a shorter clearance time to
16 be removed from the body which is a factor in
17 developing those values, and that makes a large
18 difference because it's a pretty significant
19 clearance rate difference.

20 Another reason the PFBS did not use the
21 pharmacokinetic model or PK model was because it
22 doesn't have the PK parameter values for that
23 chemical. That is another difference. It's -- I
24 believe they probably would have used those if they

1 had them. They've done that in the past when those
2 values are available.

3 But the clearance rate makes a pretty big
4 difference in developing the toxicity values, and
5 the clearance rate for a shorter chain compound is
6 going to be much, much faster. When I say a
7 clearance rate, what I mean is how fast the body
8 can remove that chemical from its body, how soon it
9 can be excreted or, conversely, how long it stays
10 in. And when you're looking at the compounds, the
11 longer chain compounds like PFOA and PFOS, then
12 those can have clearance rates of, you know, years,
13 whereas PFBS has a clearance rate of several
14 months.

15 **Q. The one -- so looking at those issues**
16 **about the length of the carbon chains, access is**
17 **probably the one that's closest at six carbons as**
18 **opposed to the four. But its number is**
19 **substantially more stringent. It's, you know,**
20 **1200 for PFBS, 77 for PFHxS using other method. So**
21 **that -- it would seem like that's not entirely**
22 **explainable by the length of the chain.**

23 A. There's a physiological term kinetic
24 parameters or PFHxS, and so they were used in the

1 development of that value.

2 **Q. So you're saying that would be the**
3 **significant reason for the numbers being different?**

4 A. Yes, I do believe it would be. Although,
5 it is common that the PK values be used when they
6 are valuable for chemicals.

7 **Q. Although, I mean, the answer mentions the**
8 **EPA RFD, referenced doses, from the Office of Water**
9 **uses -- utilize PK models, but those three data are**
10 **studies, correct?**

11 A. Yes, but that's considered an unranked
12 Tier 3 source.

13 **Q. Even though they use the pharmacokinetic**
14 **information?**

15 A. Right. If it's available, it's used, but
16 PFBS does not have that information available.

17 **Q. My next question concerns test methods,**
18 **and I understand that the agency knows of one test**
19 **method that has been -- I don't know if the word is**
20 **approved, but one test method that has been**
21 **specified by EPA or the various media other than**
22 **drinking water, SW-846, Method 8327; is that right?**

23 A. That is correct.

24 **Q. So that was only recently I believe placed**

1 in the methods compendium?

2 A. Yes, I believe so.

3 Q. So does the agency have experience using
4 that method? Well, I guess that's the first
5 question.

6 A. I do not believe we had experience.
7 You've seen that. However, we recommend a
8 groundwater quality standards, Method 537.1, be
9 used.

10 Q. Now, that method is one that's been
11 approved for use with drinking water, correct?

12 A. Yes, it has been. They are drinking water
13 methods.

14 Q. So but not in the, say, the federal
15 requisite circle of remediation programs, correct?

16 A. I'm not familiar with what those programs
17 do.

18 Q. And the analytical issues involving
19 groundwater --

20 (Reporter clarification.)

21 BY MR. ANDES:

22 Q. Is it accurate to say that the matrix --
23 to use for contaminate groundwater can be
24 significantly different than simply for sampling

1 **treated drinking water?**

2 A. That is why, first of all, we recommend
3 537.1. It is the method that we were using for
4 community water supply wells and surface water. We
5 use it with the raw water data, and they do not
6 seem to have a problem meeting the 531 minimum
7 reporting levels.

8 **Q. Okay. But so the agency is using that**
9 **method in a variety of programs. It's not approved**
10 **by EPA for use in those programs as far as I know,**
11 **but that is the method that Illinois EPA has been**
12 **using in its activities?**

13 A. Which method are you referring to?

14 **Q. I'm sorry, 537.1.**

15 A. Yeah. I believe it has been approved by
16 USEPA to use in their programs. I know that -- or
17 I believe, I would need to double-check this, but I
18 think the military is using it in their
19 investigations for PFAS, and it has been approved
20 by the USEPA who awarded the grant to use the PFAS
21 at least for the drinking water for the community
22 water supplies. These are what we've collected
23 with the raw water samples, and we've again not had
24 any real issues with it. Other circumstances I'm

1 not quite aware of.

2 Q. So there's a distinction I'm thinking
3 about in terms of there are test methods at the
4 agencies, both EPA and -- stating they can use in
5 various programs, and then there are methods that
6 are specifically approved for use in compliance
7 determinations.

8 And my understanding is the only test
9 method approved in drinking water for compliance
10 determinations is 537.1, and that's the only thing
11 it's approved for from a compliance standpoint.

12 A. For drinking water as in public drinking
13 water?

14 Q. Yes.

15 A. I don't know. This refers to groundwater.
16 This is potable water --

17 Q. And --

18 A. -- but it is groundwater.

19 Q. So as to groundwater and whether potable
20 or not, but the agency's answer is the one approved
21 test method that EPA has for use with groundwater
22 is 8327, correct?

23 A. Yes. But again we speak to the fact that
24 the groundwater is Class 1 being potable water.

1 That is the protection from someone who installed a
2 well which would make it drinking water.

3 **Q. Okay. But so if -- so under programs that**
4 **utilize these groundwater standards, would**
5 **regulated parties be required to use 537.1?**

6 A. I believe that would depend on the
7 individual group and how standards are within the
8 individual programs.

9 **Q. Okay. So does the -- and what is**
10 **specified in this proposal for test methods to be**
11 **used?**

12 A. Can you repeat the question?

13 **Q. In this proposal, does the agency specify**
14 **the test method that would be used in determining**
15 **whether there's compliance with groundwater**
16 **standards?**

17 A. This one does not specify the test method.
18 We can use whatever test method can make the
19 minimum reporting level, the lowest concentration
20 minimum reporting level which at this point is
21 537.1.

22 **Q. Okay. So not 8327?**

23 A. I do not believe they can make the -- as
24 that's an SW-846, I do not believe they're LLOQ

1 meets the minimum reporting level.

2 Q. Oh, okay. Okay. Thank you.

3 Now I'll move to Question 14. The agency
4 is required under the statute to take into account
5 technical feasibility and economic reasonableness.
6 In the Statement of Reasons the agency concludes
7 that the proposed amendments are technically
8 feasible and economically reasonable.

9 My question is, given the testimony
10 earlier today when the agency said that facilities
11 may be required to remediate as a result of these
12 standards, the agency has not determined what the
13 cleanup costs would be. How does that square with
14 this finding that the proposed amendments are
15 technically feasible and economically reasonable
16 when the costs have not been estimated?

17 BY MR. DUNAWAY:

18 A. This is Lynn Dunaway.

19 Once the 620 amendments are adopted, the
20 agency can identify and develop amendments needed
21 in the other rules. And it's a process that
22 requires multiple steps. The agency's already
23 begun outreach with the NWRA to discuss potential
24 impacts raised by these questions. However,

1 amendments to Part 620 must be adopted first and
2 known before you can come up with a definitive
3 answer of costs.

4 Q. But if those -- those other programs are
5 required to use the applicable groundwater
6 standards, correct?

7 A. Yes.

8 Q. They can't decide, well, they're too
9 expensive; we're not going to use the standards or
10 adopt it in 620, right?

11 A. The standard would have to be adopted
12 before they can decide that it was too stringent or
13 too expensive.

14 Q. So can the other program decide not to
15 follow the groundwater standards cause they're too
16 expensive?

17 A. I don't know what the other programs are
18 to make those types of decisions.

19 Q. Okay. A related question, and this goes
20 to I think Question 17 and 18 which are -- actually
21 might be my last questions on here. The agency I
22 think in a variety of documents as discussed and I
23 know USEPA has discussed the background levels of
24 PFAS substances in the environment.

1 So the question then -- I guess the first
2 part of my question will be, isn't it at least
3 possible, if not likely, that there will be
4 background levels of PFAS in groundwater in areas
5 of the state that are higher than the standards
6 without any contribution from specific sources in
7 the area. And then the follow-up question is, if
8 that's the case, the background levels of PFAS in
9 areas of the state are higher than these standards,
10 how will the agency require the owners and
11 operators of those wells or operations to clean up
12 below background levels in order to comply with
13 these groundwater standards?

14 A. No. That's not the case with any
15 contaminant. If there is -- which goes back to an
16 earlier question. You can have upgradient wells.
17 You can have downgradient wells from your specific
18 source. And if your concentration is coming into
19 that unit higher than are above the numbers, then
20 that unit can't be responsible for it.

21 Q. So I guess the question in practical
22 application would be if we find a whole region of
23 the state where the levels of PFAS -- background
24 levels of PFAS are well-above the standards, does

1 and -- does that mean that the sites where those
2 levels -- how will the agency decide whether
3 remediation will be required in any of those sites
4 given that the background levels are already above
5 the standards?

6 A. There again it would depend on the
7 contribution of those sites. Just because you have
8 a background that is above a health-based level
9 doesn't mean you want to make it onerous and back
10 to above that health-based level with an additional
11 activity that may be contributing.

12 Q. Would it -- assuming for a minute that we
13 have sites where you may find a small
14 contribution -- maybe a small contribution from
15 onsite sources, would the site be required to --
16 would it be allowed to remain at a level above the
17 groundwater standard given the background levels?
18 What -- how much reduction would be required when
19 the applicable standard is, you know, the
20 groundwater standard that would be exceeded no
21 matter what they do? Would they be required to
22 only remediate their increments leaving the number
23 above the standard or would some other requirement
24 be applied?

1 A. That would be a program specific
2 determination. However, you'd also have to
3 consider that you're talking small increment.
4 There would be the necessity to consider
5 statistical significance of that small increment.

6 **Q. Okay. And how is that -- given that this**
7 **as we've discussed previously this morning, the**
8 **regulations require compliance with the standard,**
9 **how would this statistically significant increase**
10 **concept be implemented, and would that be within**
11 **the language of the regulations?**

12 A. That would be within the language of the
13 specific program regulating that unit.

14 **Q. So in the absence of that language**
15 **allowing for flexibility, the possibility exists**
16 **based on the language in 620 that one would simply**
17 **be required to remediate to the groundwater**
18 **standard, correct?**

19 A. If the background was already above the
20 standard, you would only have to remediate to the
21 background, not to the standard.

22 **Q. But is that provided anywhere in the**
23 **regulatory language?**

24 A. I don't believe that's in Part 620, no.

1 MR. ANDES: Okay. Thank you. Those are my
2 questions for now.

3 HEARING OFFICER HORTON: Thank you.

4 Are there any follow-up questions here in
5 Springfield on Section 620.410?

6 Great. Miss Manning?

7 BY MS. MANNING:

8 Q. I don't have a lot of follow-up questions
9 as Mr. Andes, but I do have one question related to
10 Class 1 groundwater and the other classes of
11 groundwater.

12 As I understand the proposal, you're
13 speaking of Class 1. Class 1 groundwater is the
14 only groundwater that is potable groundwater; is
15 that correct?

16 A. Yes, it's considered to be potable
17 resource.

18 Q. But yet the standard you're proposing is
19 applicable not just to Class 1 groundwater, but to
20 all classes of groundwater in the state?

21 A. Well, it is -- based on the way the
22 regulations are written, it would be subject to
23 obviously Class 1 and Class 3 groundwater which is
24 special resource groundwater because special

1 resource groundwater basically says it's Class 1
2 groundwater.

3 Now, for Class 2 groundwater in this
4 particular place, it does not have the
5 treatability. It does not have the chemical
6 specific factors to qualify it to have a
7 treatability factor. One of the factors with
8 Class 2 groundwater is the ability to make it for
9 beneficial use, make it available to be used as
10 Class 1 groundwater if treated.

11 **Q. My question, though, is, is the number**
12 **you're proposing the same for all classes of**
13 **groundwater?**

14 A. For Class 1, 2 and 3, yes.

15 **Q. And is that true of other constituents**
16 **under the Groundwater Protection Act in Part 620 or**
17 **is this unique that you're using the same number**
18 **for all three types of groundwater?**

19 A. No, it is not unique.

20 **Q. What other type constituents have the same**
21 **number for all three types of groundwater?**

22 A. Any of the organic constituents that do
23 not have the chemical specific factors that were
24 discussed in my testimony that allow it to have an

1 adjustment for treatability factor.

2 MS. MANNING: Thank you. I'll have more
3 general questions later, but not on this specific
4 part.

5 HEARING OFFICER HORTON: Okay. Great. Anyone
6 else on Section 410 here in Springfield?

7 Okay. I'll turn it over to Chicago. Any
8 questions on Section 410?

9 MR. PAULEY: Yes.

10 MS. JOSHI: This is Nina Joshi from Arent Fox
11 Schiff on behalf of Dynegy. It may be helpful over
12 there in Springfield if you pull up what I believe
13 has been labeled Exhibit 12 which is IEPA's
14 responses to Dynegy's questions.

15 HEARING OFFICER HORTON: Could you speak up
16 just a little bit here for us in Springfield?

17 MS. JOSHI: Sure. I said it may be helpful for
18 the IEPA witnesses to pull up what I believe has
19 been labeled Exhibit 12, IEPA's responses to
20 Dynegy's questions.

21 BY MS. JOSHI:

22 **Q. To start off with, I just wanted to**
23 **confirm, IEPA has not considered statewide**
24 **background concentrations with setting the proposed**

1 **Class 1 or Class 2 standards; is that correct?**

2 BY MS. HAWBAKER:

3 A. That is correct.

4 Q. So in response to Dynegy's Question
5 Number 5 which asks about how background levels of
6 the contaminant impact the applicability of
7 groundwater standards in Part 620, IEPA notes that
8 program specific regulations determine how
9 background levels of the contaminant impact the
10 applicability of the Part 620 standards; is that
11 correct?

12 A. Yes, that is correct.

13 Q. Okay. And then IEPA goes on to reference
14 how Part 742 regulations allow for determinations
15 of area background and the use of background
16 concentrations to exclude contaminants of concern;
17 is that right?

18 A. Yes, that is correct.

19 Q. Okay. So if statewide background
20 concentrations for a particular contaminant are
21 higher across most of the state or a large part of
22 the state than the Part 620 standard, aren't you
23 going to have a situation where just about every
24 site undergoing remediation under Part 742 is going

1 to have to go through the process of demonstrating
2 that background levels for the contaminant are
3 higher than the Part 620 standard?

4 A. No, not at all. First of all, the
5 people -- or I should say the sites that are
6 working within the 742 regulations, they have
7 several options. Demonstrating background is one
8 option that they have. We generally do not see it
9 very often except I believe with the RCRA, the
10 R-C-R-A, program. But for the most part what we
11 see in the other programs is that they will either
12 select to institute a groundwater use restriction
13 or utilize a municipal ordinance prohibiting the
14 use of groundwater to exclude that exposure out.

15 But there is an option. The option is
16 available for them in Section 742 to use if they
17 wish.

18 Q. Okay. And in response to Question 7 and 8
19 which also asked about background, IEPA responded
20 that program specific regulations determine how
21 background concentrations of the constituent are
22 taken into consideration.

23 I guess kind of elaborating on that and my
24 previous question, has IEPA considered the burden

1 on these other programs and participants in these
2 programs where background is or can be taken into
3 consideration where the proposed Part 620 standard
4 is set below statewide background?

5 A. Well, yes and no. I mean, they work on
6 individual background. We're not necessarily
7 working on a statewide background when we develop
8 groundwater. We are working on site specific
9 groundwater. And there are possible two things,
10 the influences that are coming on to the site, and
11 then any possible contribution to the site that may
12 impact the down gradient, any other down gradient
13 sites.

14 But again it's not -- it's not necessary
15 for them to do that. They have other options.

16 Q. Okay. I understand.

17 So my question is whether IEPA has taken
18 into consideration any additional burdens that
19 might be placed on implementation of some of these
20 other programs or the participants in these other
21 programs where the proposed Part 620 standard or
22 standards are being set below what statewide
23 background might be?

24 A. Well, again, we don't develop --

1 Section 742 does not consider statewide background
2 when it considers groundwater. So I'm not sure the
3 applicability to the question.

4 Q. So let me -- maybe you're not -- I'm not
5 explaining the question to you correctly.

6 So there may be cases where the proposed
7 Part 620 standard is below statewide background for
8 that particular constituent. Has IEPA considered
9 the impact that those types of standards might have
10 on the implementation of other programs that
11 utilize the Part 620 standards and allow background
12 concentrations to be taken into account?

13 A. We have not developed a statewide
14 background for one, and again we work on background
15 related to specific sites, backgrounds in specific
16 areas, let's say, upgradient and downgradient of a
17 specific site. So we don't develop state specific
18 background concentrations for groundwater.

19 Q. Okay. Has -- well, I guess that leads me
20 to my next question which is, I assume you're
21 familiar with the table of background
22 concentrations for inorganic analyzed soil that
23 IEPA keeps under Part 742, Appendix A, Table G?

24 A. Yes. Those are for soil.

1 **Q. Yes. Okay. Do you know if IEPA plans to**
2 **develop a similar table for inorganic analyzed soil**
3 **and groundwater?**

4 A. No, I don't believe so.

5 **Q. Okay.**

6 A. We are in the process of drafting updates
7 to Section 742. So that may be something we would
8 consider, but at this point it hasn't been brought
9 up.

10 **Q. So can the Part 620 standards be enforced**
11 **independently, meaning outside the context of**
12 **another state program?**

13 A. Could you provide an example?

14 **Q. Yes. So, for example, could IEPA bring an**
15 **enforcement action outside of another state program**
16 **for violation of a groundwater quality standard in**
17 **Part 620?**

18 BY MR. DUNAWAY:

19 A. This is Lynn Dunaway.

20 Yes. Outside the remediation programs,
21 violations have been brought for exceedances of
22 620 standards.

23 **Q. Okay. So I'd like to move on then to talk**
24 **about Dynegy's Question Number 9. So there the**

1 question that was posed was what methodology or
2 methodologies did the agency use to establish lower
3 limit of quantification or lowest concentration
4 minimum recording levels for constituents.

5 Did that methodology or those
6 methodologies include determining whether an LLOQ
7 or an LCM or L, I hope that was slow enough, is an
8 achievable target for using unfiltered groundwater
9 samples. So in response to --

10 A. I'm sorry. I interrupted. Please go
11 ahead.

12 Q. Okay. Well, I was just going to ask,
13 first off, in its response IEPA states that
14 groundwater samples are filtered during the
15 preparation step using SW-846, Method 3512.

16 Do you see that?

17 A. Yes.

18 Q. Okay. Does this method apply to all
19 groundwater samples or just PFAS?

20 A. No. It applies actually to SW-846
21 methods. Those would be, you know, the groundwater
22 methods that have a quantification level low enough
23 to meet the groundwater quality standards. The
24 drinking water methods do not do the filter method,

1 the 3512.

2 Q. Okay. So you're saying this preparation
3 method that's referenced by IEPA's understanding,
4 that it would apply to analysis of groundwater
5 standards for all sorts of constituents and not
6 just PFAS?

7 A. Yes. Yes, it would.

8 Q. Okay. Did the agency consider looking --
9 pardon me?

10 A. I'm sorry. It would obviously depend on
11 the method they were using, but if it's SW-846
12 method, then yes.

13 Q. Sorry. I had a hard time hearing that.
14 Could I hear that read back?

15 A. Yes. It would depend on the method that's
16 being used, but if it were an SW-846 method, then
17 yes.

18 Q. Did the agency consider looking at
19 unfiltered samples to establish lower limit of
20 quantification or lowest concentration minimum
21 reporting levels for any of the constituents
22 subject to its proposed Part 620 rule?

23 A. Could you repeat the question? I'm sorry.

24 Q. Sure.

1 Did the agency consider looking at
2 unfiltered samples to establish lower limit of
3 quantification or lowest concentration minimum
4 recording levels for any of the constituents in the
5 proposed rule?

6 A. No. We followed the methods that were
7 prescribed with SW-846 and the USEPA drinking water
8 methods.

9 Q. Can you elaborate on what you're referring
10 to when you say the methods that were prescribed
11 and exactly what IEPA looked at and why?

12 A. Is that for all of the chemicals or just
13 PFAS or --

14 Q. No. I'm asking for all the chemicals.
15 And if it would be helpful for me to specify
16 particular constituents, I'm happy to.

17 A. I'm sorry. Can you repeat that again?

18 Q. Sure.

19 So I'm wondering if the agency considered
20 looking at unfiltered samples for establishing
21 lower limit of quantification or lowest
22 concentration minimum reporting levels for the
23 constituents. And then I think that you said that
24 IEPA, and please correct me if I'm misstating this,

1 that IEPA looked at specific guidance or
2 information from USEPA.

3 And I was wondering if you could elaborate
4 on what it is you looked at or relied upon to
5 determine that filtered samples would be looked at
6 and unfiltered samples would not be looked at when
7 establishing lower limit of quantification or
8 lowest concentration minimum recording levels?

9 A. Yes. It would -- the SW-846 methods
10 prescribe that. So, yes, that would be the source
11 that we looked at for determining the LLOQs
12 necessarily. The drinking water would be -- we've
13 looked at those methods, too, for their development
14 of the LDMRL.

15 Q. Okay. And when you say you looked at the
16 drinking water methods, exactly what are you
17 referring to there?

18 A. Method 537.1, and we've also reviewed
19 method 533.

20 Q. Okay. Anything else that you looked at?

21 A. No, no. We were trying to basically
22 update the SW-846 language to be consistent with
23 what SW-846 is doing now.

24 Q. So when determining whether there's an

1 **exceedence of a Part 620 standard, will the agency**
2 **require the samples to be unfiltered?**

3 A. They should not be filtered in the field.
4 Part of that sampling protocol will now be done in
5 the lab.

6 **Q. Okay. So will they allow those samples to**
7 **be filtered in the lab?**

8 A. Yes. When it is part of the SW-846
9 protocol for that procedure, yes.

10 MR. DUNAWAY: This is Lynn Dunaway.

11 For clarity, I would also like to add that
12 Carol's referring to analyses done in Part 620, not
13 other programs necessarily.

14 MS. JOSHI: Yes. Thank you.

15 BY MS. JOSHI:

16 **Q. So does IEPA believe it's ever appropriate**
17 **to prepare a filtered sample in the field to**
18 **determine whether there's been an exceedence of a**
19 **Class 1 or Class 2 standard?**

20 BY MS. HAWBAKER:

21 A. Generally, based on my experience, we
22 prefer it not to be filtered in the field.
23 Although, there are some cases I know where that
24 has happened.

1 Q. Okay. But does IEPA believe it is
2 appropriate to filter a sample in the lab when --

3 A. Yes.

4 Q. Okay.

5 A. If a sample requires filtering, it should
6 be done in the lab.

7 Q. And when you say if a sample requires
8 filtering, do you know if the SW-846 methodology
9 requires filtering? Can you explain what you mean
10 by that?

11 A. Yes, that is what I mean.

12 MS. JOSHI: I have some questions on the HTTAC
13 formula, but I wonder if now is the right time to
14 bring those up or whether those should be brought
15 up when we get to Appendix A.

16 Does IEPA or the hearing officer have a
17 preference on that?

18 HEARING OFFICER HORTON: I defer to the IEPA
19 or --

20 MS. HAWBAKER: It relates to both 410 and the
21 Appendix A, so I am -- I'm fine with either way.

22 HEARING OFFICER HORTON: Okay. Let's go ahead
23 with those questions then.

24 MS. JOSHI: All right. That sounds good.

1 BY MS. JOSHI:

2 Q. All right. Then I'd like to direct your
3 attention, please, to Dynegey's Question Number 10.
4 IEPA said it based its relative source contribution
5 values, which I'll abbreviate as RSC, on USEPA's
6 relative source contributions.

7 Can you provide more detail about what
8 USEPA's source or sources you used for this
9 information?

10 A. For one, we used USEPA, the RSCs, for the
11 PFAS, P-F-A-S, contaminants. We generally use
12 USEPA's default of 20 percent when there's not good
13 data available to determine the source
14 contribution. There have been several other
15 contaminants where USEPA has set a higher
16 resource -- relative source contribution that we've
17 utilized those.

18 Q. And what USEPA resources are you using to
19 derive these RSCs? Are you looking at health
20 advisories? Is there any other source -- USEPA
21 source that you're looking at?

22 A. Primarily from the health advisories.

23 Q. Anything else? Any other USEPA resource
24 other than the health advisories that IEPA looked

1 to determine its RSCs?

2 A. No.

3 Q. Did IEPA run across any situations where
4 USEPA did not have an RSC for a particular
5 constituent?

6 A. Yes, I believe they did.

7 Q. Okay. And in those circumstances is it
8 accurate to say that IEPA defaulted to using a
9 20 percent RSC?

10 A. Yes.

11 Q. Okay. Does IEPA agree that USEPA
12 generally allows --

13 A. Can I --

14 HEARING OFFICER HORTON: Miss Hawbaker?

15 MS. HAWBAKER: I'm sorry. I'd like to amend
16 that.

17 There are some that we are aware of some
18 of the explosive contaminants that USEPA I do not
19 believe had an RSC for, and we set those I believe
20 at 50 percent, possibly one at 80 percent.

21 BY MS. JOSHI:

22 Q. Okay. Other than for explosives where
23 USEPA did not have an RSC, IEPA used the
24 20 percent; is that right?

1 A. Yes, that is correct.

2 **Q. Does IEPA agree USEPA generally allows an**
3 **RSC value of 0.2 to 0.8?**

4 A. Yes. I know that that's their range that
5 they allow, and when information is not readily
6 available or there's conflicting information out
7 there, they will set theirs to the default of
8 20 percent.

9 **Q. In those circumstances where there wasn't**
10 **an RSC value from USEPA, did IEPA consider using**
11 **other scientific studies or resources to derive an**
12 **RSC?**

13 A. In some cases, yes. For the explosives, I
14 would have to go back to the testimony from the
15 previous rulemaking to determine how they developed
16 their RSCs for the explosives. Although, I believe
17 what it has to do with is the fact that due to the
18 nature of them being explosives, drinking water
19 ingestion is just like the primary source for them
20 to be exposed to just based on the nature of
21 explosives are not all that common as other -- in
22 other sources in other acts of exposure. But, yes.

23 And then the PFAS we looked into ATSDR i
24 believe recommended a 50 percent RSC based on the

1 reduction in blood levels and in humans and based
2 on the banning of the PFOA and the PFOS, in the
3 United States. However, it's -- there's still a
4 lot of products out there that are manufactured in
5 other countries that can be imported. And again
6 with the clearance levels with the body, we're just
7 preferring to keep it at the default of 0.2 or 20
8 percent.

9 **Q. Okay. Other than for the PFAS and for the**
10 **explosives, are there any other circumstances where**
11 **IEPA considered other resources to derive an RSC?**

12 A. I don't believe so.

13 **Q. Has IEPA considered doing its own**
14 **evaluation of dietary intake to determine**
15 **appropriate RSCs to use when setting Class 1**
16 **standards?**

17 A. That's not something we generally have
18 done.

19 **Q. Does the RSC data from USEPA that IEPA has**
20 **utilized, are those RSCs set based on consumption**
21 **by children?**

22 A. Those are based on general consumption.
23 What that means is that the RSC being the amount of
24 exposure of the total exposure through drinking

1 water, the amount of drinking water versus total
2 exposure of the chemical. In fact, for children
3 they would probably be lower because children are
4 more likely to put things in their mouths. They're
5 also crawling around on carpets, chewing on
6 furniture, things like that, which would actually
7 create a greater opportunity of exposure for them.

8 **Q. Does IEPA agree that dietary -- so and I**
9 **assume -- you may have already slightly answered**
10 **this, but does IEPA agree that dietary intake by**
11 **children may differ than dietary intake by adults?**

12 A. I'm sorry. Could you repeat the question?

13 **Q. Sure.**

14 **Does IEPA agree that dietary intake by**
15 **children may differ from dietary intake by adults?**

16 A. Dietary intake, it may differ by children,
17 but we are looking at, you know, again, you know,
18 drinking water ingestion intake. So it can make a
19 difference, and it depends on the chemical.

20 **Q. But when -- when looking at relative**
21 **source contribution, doesn't dietary intake have to**
22 **be taken into account to then determine the**
23 **relative source contribution from water intake?**

24 A. Yes. It is taken into account.

1 MS. JOSHI: I think that's all I have on this
2 section. Thank you.

3 HEARING OFFICER HORTON: Okay. Thank you.
4 This is Vanessa Horton.

5 Anyone else in Chicago have follow-up
6 questions on Section 410?

7 MR. RISOTTO: Yes. This is Steve Risotto from
8 the American Chemistry Council.

9 BY MR. RISOTTO:

10 Q. I want to just make sure that I understood
11 the hierarchy of sources of information. If I
12 understood correctly, values developed by USEPA's
13 Office of Water are unranked Tier 3 sources.

14 Did I hear that right?

15 A. Yes.

16 Q. Which means that --

17 A. Yes, that's correct.

18 Q. -- they are pretty low in the tiering?

19 In fact --

20 A. Yes, they are.

21 Q. So if I look at the table of values, the
22 only substance that uses the Office of Water values
23 is GenX, HFPO-DA; is that right.

24 A. Yes, that is correct.

1 **Q. Did IEPA consider other evaluations of**
2 **GenX including that by the State of Michigan in**
3 **establishing their drinking water standards or**
4 **other authoritative bodies?**

5 A. No. What we did was we evaluated what was
6 within the tiers, and then USEPA we would consider
7 to be a higher tier than an individual state on the
8 unranked sources.

9 **Q. Why is IEPA going ahead with a value**
10 **for -- based on an unranked Tier 3 source?**

11 A. Because it's still an acceptable source.
12 It's just an unranked one.

13 **Q. What is the ranking of state values**
14 **established through a peer-review process like**
15 **Michigan's?**

16 A. I'm sorry. Could you repeat that?

17 **Q. How are -- how is the Michigan process for**
18 **developing MCLs ranked in your tiering?**

19 A. I am not aware of how the Michigan sources
20 are ranked. They would be considered an unranked
21 Tier 3 source.

22 **Q. How about Health Canada?**

23 A. That would be an unranked Tier 3 source.

24 **Q. So if Health Canada or Michigan had values**

1 developed for any of these chemicals, they would be
2 comparable to a value established by the Office of
3 Water at USEPA?

4 A. Yes. But we would prefer to use the
5 USEPA's Office of Water data because that would be
6 what the Illinois EPA would be considered on the
7 next lower tier. That would be the first tier of
8 the unranked sources.

9 Q. And you did not consider those other
10 sources other than USEPA?

11 A. We evaluated them, but then again we chose
12 to use the USEPA Office of Water.

13 Q. Okay. All right. I'm gonna ask a
14 question about a substance that's not a PFAS you'll
15 be happy to hear, 1,4-dioxane. And this sort of
16 goes to the sources of information. The source you
17 use for 1,4-dioxane is a value that was generated
18 nine years ago by the IRIS office. It is clearly
19 outdated.

20 There have been multiple evaluations of
21 that chemical done more recently including one in
22 2021 by Health Canada. It's also been reviewed by
23 the World Health Organization, by the European
24 Union, by the Australians, by the Japanese,

1 et cetera, et cetera, et cetera.

2 Why would you use a value that is a decade
3 old and clearly outdated to establish a standard
4 for this substance?

5 A. It is a Tier 1 toxicity source within
6 USEPA's toxicity hierarchy. In that case when
7 IRIS, which is the Tier 1 source, when they propose
8 to update their value based on any additional
9 studies, then that value will be updated.

10 Q. Okay. All right. Thank you.

11 I want to sort of follow up on Bina's
12 questions on the relative source contribution, the
13 RSC. And this is going back to PFAS, my apologies.
14 It relates to ACC's Question 11 in responding to
15 the question of why you use the default of
16 20 percent for the PFAS. The response -- your
17 response in part said, in addition, bioaccumulation
18 of PFAS in plants and animals used for food source.

19 Now, would you agree that not all PFAS
20 bioaccumulate?

21 A. Not all. Well, all PFAS bioaccumulate to
22 some extent. Some obviously bioaccumulate a great
23 deal more than others.

24 Q. Would you agree that PFOA does not

1 **bioaccumulate?**

2 A. PFOA is not as bioaccumulative as PFOS.
3 That's certainly the case, and it's not as
4 bioaccumulative as PFBS which seems to
5 bioaccumulate. But we have studies that are shown
6 that PFOA has been present in fish in waters in
7 Illinois.

8 Q. Okay. Are you familiar with recent data
9 from the Food and Drug Administration that did a
10 market basket evaluation that found -- did not find
11 PFOA in 160-some-odd -- 160-some-odd samples
12 including samples of fish?

13 A. Well, the sampling that we've done from, I
14 believe, 2011 I did believe showed some detections
15 of PFAS in fish -- or PFOA in fish.

16 Q. Okay.

17 A. We found a great deal more that had PFOS.
18 Again that is much more bioaccumulative. But PFOA
19 does bioaccumulate to some extent, but it is a
20 lesser extent.

21 Q. Thank you.

22 You already mentioned the blood sampling
23 data that is available from the Centers For Disease
24 Control and Prevention which show an 85 percent

1 reduction in blood levels for PFOS and a 60 percent
2 reduction for PFOA since 2000. Would -- does that
3 not suggest that exposures from sources other than
4 drinking water for at least those two substances
5 have declined?

6 A. They have most likely declined. However,
7 there's still exposures when someone is drinking
8 uncontaminated groundwater or drinking water. It
9 is also within their blood which also indicates
10 that they're still being exposed to some extent in
11 addition to the fact that the long time that it
12 takes to clear out of the body, but it is
13 decreasing.

14 Q. Would that not suggest a chemical specific
15 review of use of the 20 percent default for at
16 least these two substances?

17 A. Well, we concur with USEPA's assumption or
18 discussion regarding their use of the 20 percent
19 with the fact that, yes, we recognize that it's
20 falling, but we don't have specific data in order
21 to set a site specific or I should say a chemical
22 specific RSC.

23 Q. And just to review, the EPA source you're
24 citing is the 2016 health advisory that you have

1 **discounted in setting the values for these two**
2 **substances?**

3 A. And the 2021 document that was just
4 submitted for peer review.

5 **Q. And the source for PFOS that you cite,**
6 **ATSDR uses 50 percent as a relative source**
7 **contribution for PFOS?**

8 A. Yes, they do. They recommend that.

9 **Q. Okay. All right. One other question, are**
10 **you familiar with the EPA restrictions on the**
11 **imports of products containing long chain PFAS,**
12 **P-F-A-S, including those containing PFOS -- PFOA**
13 **and PFOS?**

14 A. Yes. We are aware that that's the case,
15 although we're also familiar with the fact that
16 there's still a great deal of those products still
17 sitting in people's homes.

18 MR. RISOTTO: Okay. Thank you so much.

19 HEARING OFFICER HORTON: Thank you.

20 Anyone else in Chicago with follow-up
21 questions on 410?

22 MR. RAO: Yes.

23 BY MR. RAO:

24 **Q. I have one follow-up on Board Question 15.**

1 This question related reliance on MCLG groundwater
2 quality standards. And agency responded by noting
3 that currently there are no constituents that has
4 standards based on MCLGs, and the agency now uses
5 Appendix A to calculate health-based groundwater
6 quality standards for constituents that do not have
7 MCLs.

8 So my question is, should we still retain
9 the footnote with reference to MCLGs in the rule if
10 we are no longer relying on MCLG groundwater
11 standards to set groundwater standards?

12 BY MS. HAWBAKER:

13 A. It's not necessarily to say that we're no
14 longer relying on it. It's just none of the
15 groundwater standards have MCLGs from the USEPA
16 anymore. They've all evolved into MCLs. So it's
17 still one of those where an MCLG could come up in
18 the future, but at this point right now none of the
19 MCLGs are being used for the chemicals to develop
20 values within Part 620 because USEPA has moved on
21 and developed MCLs for them.

22 Q. So you think that will be a possibility
23 that for some new chemical they may conduct MCLG?

24 A. It depends. You know, we prefer to

1 have -- you know, our requirements are that we
2 should do health-based concentrations which is
3 certainly what we prefer to do. And so when
4 toxicity data is available, we would certainly
5 prefer to do that. We would go with that method.
6 But in some cases maybe there could be a
7 circumstance in the future where there isn't
8 toxicity data available and an MCLG is set by
9 USEPA.

10 **Q. Okay.**

11 A. I don't think it can be ruled out. Let me
12 say that. But, yes, if there's toxicity data
13 available for it, we will use the health-based
14 toxicity procedures that are in 620 Appendix A.

15 **Q. Would that be a concern of relying on a**
16 **nonhealth-based MCLG to set health-based**
17 **groundwater quality standards?**

18 A. And that's why we would be using. If we
19 had toxicity data in order to calculate a
20 health-based groundwater quality standard, that
21 would be what would be our choice. That would be
22 our number one go-to that we would we would
23 utilize.

24 MR. RAO: Okay. Thank you. That'S all I have.

1 HEARING OFFICER HORTON: Okay. No further
2 questions on 410?

3 MR. PAULEY: Not in Chicago.

4 HEARING OFFICER HORTON: So we'll move to
5 Section 620.4020, groundwater Quality Standards For
6 Class 2 General Resource Groundwater. Any
7 follow-up questions here in Springfield on 420?

8 Don't see any here.

9 Any for Chicago 420?

10 MR. PAULEY: Yes.

11 BY MS. JOSHI:

12 **Q. HI, this is Bina Joshi again from Arent**
13 **Fox Schiff on behalf of Dynegey.**

14 I wanted to ask a bit more about the
15 standards in this section that are based on the
16 National Academy of Science's 1972 Water Quality
17 Criteria Definite.

18 So I understand from IEPA's responses that
19 the agency is using this document to support
20 standards based on uses other than potability; is
21 that correct?

22 A. That is correct. And that is consistent
23 with how it's been done in other groundwater
24 standards -- quality standards in the past.

1 **Q. Okay. And some of these other uses**
2 **include consumption by livestock and use in**
3 **irrigation; is that right?**

4 A. Yes, beneficial use for livestock
5 consumption and then also for irrigation of crops.

6 **Q. Okay. So when setting a proposed standard**
7 **based on one of the other uses, did IEPA look to**
8 **see whether water in Illinois is actually used for**
9 **that purpose?**

10 A. Well, water in Illinois is used for that
11 purpose. Irrigation of crops is very common, and
12 most farms that have livestock are usually on
13 private wells. So of course it's being used for
14 those purposes. And again for beneficial use, the
15 goal is to protect those livestock and crops from
16 further harm -- from harm.

17 **Q. Okay. So I wanted to talk about one use**
18 **in particular, and that's continuous irrigation or**
19 **continuous use of water for irrigation.**

20 **Did IEPA do anything to confirm that**
21 **continuous irrigation is occurring in Illinois as**
22 **part of this rulemaking?**

23 A. I don't believe we used continuous
24 irrigation. I believe we used -- see if I can find

1 it here because I believe we thought the continuous
2 irrigation was more appropriate for drier climates,
3 but let me see if I can find here what we used.

4 Oh, it would be in the attachments.

5 **Q. And if it's helpful, I'm particularly**
6 **interested in the basis for the selenium standard.**

7 A. I believe it's in here. Do you have the
8 full document? It's large. I would have to look
9 into that and see that. I thought what it was was
10 irrigation up to 20 years, and then continuous
11 irrigation which I believe I -- had to do with
12 again, you know, drier areas, areas that require
13 continuous irrigation. We have, yeah, I would say
14 intermittent irrigation here.

15 But I would have to look to see which
16 particular value was used, and it's possible that
17 selenium -- and again not having it in front me, it
18 could be some of the chemicals were the same for
19 both circumstances. I don't know if selenium was
20 one of them.

21 **Q. And when you say both circumstances, what**
22 **do you mean?**

23 A. Could you repeat that question?

24 **Q. Yes.**

1 When you say it may have been the same for
2 both circumstances, what do you mean by both
3 circumstances?

4 A. Well, was it selenium and irrigation or
5 was it a lifestyle?

6 Q. I believe it was irrigation.

7 Do you have the water quality criteria
8 document in front of you by any chance?

9 A. I do not.

10 Q. Okay. I have it in front of me. Do you
11 mind if I read a portion of it to you?

12 A. Yes, please.

13 Q. Okay. So this is the recommendation on
14 selenium based on irrigation. I believe that the
15 lifestyle recommendation is 0.05, and this is the
16 section that deals with irrigation.

17 It says, with the low levels of selenium
18 required to produce toxic levels in forages, the
19 recommended maximum concentration in irrigation
20 waters is 0.02 milligrams per liter for continuous
21 use on all soils.

22 A. I'm trying to pull it up here. I'm having
23 operator difficulties here.

24 Okay. And then there should also be

1 another table that talks about the second option.

2 I apologize.

3 **Q. No problem.**

4 A. Thank you. Here we go. Yeah. It's
5 for -- let's see. Water is used continuously --
6 I'm looking at the table that was attached, the
7 recommended maximum concentrations for trace
8 elements in irrigation waters, and selenium has the
9 same value for both.

10 For water used continuously on all soil
11 and for water for use up to 20 years on
12 fine-textured soils, it is the same value. And
13 we'd rely on the water -- the use up to 20 years on
14 fine texture soils, not for water used continuously
15 on all soils.

16 **Q. Okay.**

17 A. Do I need to say that again since I wasn't
18 facing the microphone?

19 **Q. I think I heard it if the court reporter**
20 **heard it.**

21 **(Reporter clarification.)**

22

23 BY MS. JOSHI:

24 **Q. Okay. And so the value of 0.02, you're**

1 saying is based on use for 20 years on
2 fine-textured soils; is that right?

3 A. Yes, that is correct.

4 Q. Okay. And is that value from the 1972
5 water quality criteria document?

6 A. Yes. And it's also included in
7 Attachment 1J.

8 Q. And for use in fine-textured soil, is
9 there any additional criteria that on frequent --
10 in that value based on frequency of use or can you
11 please explain sort of what that use consists of or
12 is based on?

13 A. It's based on intermittent use over
14 20 years. It's not based on a continuous use where
15 continuous use would be their primary source or
16 maybe their only source would be irrigation,
17 whereas the continuous use or for the
18 up-to-20-year use, that's based on an intermittent
19 irrigation, but I could not tell you what the
20 intermittency is.

21 Q. Okay. And then did the agency confirm
22 that intermittent use in fine-textured soil is a
23 use of groundwater in Illinois?

24 A. This is what we based our previous

1 irrigation values on is this particular table and
2 those particular values for the 20-year use.

3 **Q. Okay.**

4 A. So it's consistent with what we previously
5 submitted which has been promulgated before the
6 Board, so we continue to use the same table.

7 **Q. So when you say you continue to use the**
8 **same table, what table are you referring to there?**

9 A. Yes, the irrigation table. For other
10 values that have irrigation values, then this is
11 the table we use, and this is the selection of the
12 tables was not to use the waters continuously used.

13 **Q. Okay. And are you familiar with the fact**
14 **that IEPA declined to set a standard of**
15 **0.02 milligrams per liter based on the water**
16 **criteria document back in rulemaking -- in the**
17 **original rulemaking for Part 620?**

18 A. No, I am not aware that they have declined
19 to do that. I -- it was -- this is for Class 2,
20 correct?

21 **Q. That's correct.**

22 A. Okay. No, I was not aware that they had
23 declined. I will have to look into that to find
24 out why.

1 **Q. And, finally, outside of relying upon that**
2 **table which IEPA has relied upon in past**
3 **rulemakings, did IEPA do any further independent**
4 **research or investigation into whether water in**
5 **Illinois is used for the purposes that the Class 2**
6 **standards are based on?**

7 A. Again, water is being used. Groundwater
8 is being used for these. These are set in rural
9 settings, usually do not have access to municipal
10 water supplies. Therefore, they're relying on
11 private wells which usually have no kind of
12 treatment system to allow for any sort of ability
13 for contaminants to be filtered out. But that's
14 the nature of an irrigation system or a livestock
15 system is this is being done in locations where
16 groundwater is the primary use.

17 **Q. Okay. I understand. But when you say**
18 **that, are you speaking sort of from personal**
19 **knowledge or has IEPA actually gone out and done an**
20 **investigation or evaluation or looked at other**
21 **resources to confirm that these uses are in**
22 **practice in Illinois?**

23 A. We can -- I mean, you surely are aware of
24 all the livestock facilities that we have in rural

1 areas and that municipal water is not accessible.
2 I mean, frankly, I live in a rural area. I don't
3 have access to municipal water.

4 We don't irrigate our crops because we
5 don't have to in our location. However, there are
6 a lot of places along Beardstown, other areas
7 specifically sandy soil areas, and they rely on
8 irrigation where there's no municipal water supply
9 available.

10 **Q. And then also to confirm, you do agree,**
11 **though, that continuous irrigation is not a**
12 **practice that's utilized in Illinois, correct?**

13 A. I'm sorry. Can you repeat that?

14 **Q. Do you agree that continuous irrigation is**
15 **not a practice that's used in Illinois?**

16 A. No. I do not believe continuous
17 irrigation is a practice that is used in Illinois
18 simply because that we do not have a necessity for
19 it. We do get regular rainfall.

20 MS. JOSHI: Thank you. That's all I had.

21 HEARING OFFICER HORTON: Okay. Was there
22 another question in Chicago in this section?

23 MR. RISOTTO: Yes.

24

1 BY MR. RISOTTO:

2 Q. This is Steve Risotto from ACC and
3 essentially just seeking clarification on the
4 EPA -- IEPA's response to our Question Number 9
5 related to the adjustment using treatment factors
6 for the Class 2 standards specific to the six PFAS
7 for which the standards are proposed.

8 Now, I admit I did not make it to
9 Page 4,854 of the agency's December 2021 filing.
10 So could you -- could you explain the chemical
11 specific parameters that led IEPA to not include a
12 treatment factor adjustment for those -- the six
13 PFAS?

14 BY MS. HAWBAKER:

15 A. Yes. Let me see if I can find that. What
16 we base the treatability factors on, this was
17 discussed in the 2008 rulemaking which promulgated
18 in 2012, is we base it on an ability for treatment
19 system to bring Class 2 groundwater into a Class 1
20 state if it becomes necessary at some point in the
21 future, and the treatability is based on the
22 Henry's law constant and the soil -- the soil water
23 carbon coefficient, Koc.

24 And what it is is for carbon treatment we

1 allow for a Koc, anything that is greater than
2 ethylbenzene's Koc value which is 446. If it has a
3 Koc that is greater than that, then we apply
4 treatability for it because we believe it can be
5 easily treated, and we can bring it to a Class 1
6 standard if needed.

7 And the other source or remediation
8 technique we look at is air sparging, and that's
9 where we rely on whether Henry's constant is being
10 used. And the Henry's constant that we rely on is
11 based on a groundwater temperature of 20 degrees
12 celsius. And we use methylene chloride as the
13 contaminant that we -- the threshold contaminant
14 that we know can be treated easily, and we use
15 methylene chloride's Henry's law of constant at
16 20 degrees celsius, and anything above that we
17 consider that easily treatable through air sparging
18 to bring a Class 2 into a Class 1 standard if it's
19 necessary.

20 **Q. Thank you so much.**

21 A. And I believe, although I may not and I
22 can certainly provide them, they are in testimony
23 and the outreach within the several-thousand-page
24 document that shows what the specific Henry's law

1 of constants are and what the specific Koc values
2 are to make the comparison of where the
3 treatability factors were applied or where they did
4 not.

5 HEARING OFFICER HORTON: Okay. Any further
6 questions on 420 in Chicago?

7 MR. PAULEY: No.

8 HEARING OFFICER HORTON: Okay. I guess I'll
9 propose right now, it's 2:30, why don't we take a
10 10-minute break, and then when we come back we'll
11 start with Section 430.

12 (WHEREUPON, a short recess was
13 taken.)

14 HEARING OFFICER HORTON: All right. We'll
15 begin again with Section 620.430, Groundwater
16 Quality Standards For Class 3 Special Resource
17 Groundwater, and I'll ask here in Springfield if
18 anybody has any follow-up questions on this
19 section.

20 Anyone in Chicago have any follow-up
21 questions on 430?

22 MR. PAULEY: No.

23 HEARING OFFICER HORTON: Okay. Moving on to
24 Section 620.440, Groundwater Quality Standards For

1 Class 4 Other Groundwater.

2 Any follow-up questions here in
3 Springfield?

4 Any in Chicago?

5 MR. RAO: I just had one clarification
6 regarding Board Question 34. We had asked the
7 agency whether the zone attenuation under Part 816
8 should be included under Section 620.440 B as in
9 boy. Agency responded that Part 816 does not
10 represent zone attenuation.

11 I think there was a typo in our question.
12 The question should have asked whether Part 817
13 should have been included, and Part 817 does have
14 zone attenuation. So if the agency can take a look
15 at it and get back to us, that'll be fine.

16 MR. DUNAWAY: This is Lynn Dunaway.

17 Yes, the agency will look at that and get
18 back to you.

19 MR. RAO: Thank you.

20 HEARING OFFICER HORTON: Okay. If no further
21 questions, we'll move on to Section 620.450,
22 Alternative Groundwater Quality Standards.

23 Any follow-up questions here in
24 Springfield?

1 In Chicago?

2 MR. PAULEY: No.

3 HEARING OFFICER HORTON: Okay. We're on
4 Section 620.510, Monitoring Analytical
5 Requirements.

6 Any follow-up questions here in
7 Springfield on 510?

8 In Chicago?

9 MR. PAULEY: No.

10 HEARING OFFICER HORTON: Okay. Moving on to
11 Section of 20.601, Purpose of the Health Advisory,
12 any follow-up questions here in Springfield?

13 In Chicago?

14 MR. PAULEY: Yes.

15 BY MR. RISOTTO:

16 **Q. Steve Risotto, ACC, just a question, has**
17 **the agency established any health advisories?**

18 BY MR. DUNAWAY:

19 A. This is Lynn Dunaway.

20 Yes. We have established some health
21 advisories.

22 **Q. Okay. Thank you.**

23 **I guess follow-up, I mean, how often do**
24 **you do it? Is it pretty rare or do you do it on a**

1 **regular basis?**

2 A. Yeah, it is a fairly rare occurrence.

3 MR. RISOTTO: Okay. Thank you.

4 HEARING OFFICER HORTON: Any other 601
5 questions in Chicago?

6 MR. PAULEY: That's it.

7 HEARING OFFICER HORTON: Okay. Moving on to
8 Section 620.605, Issuance of the Health Advisory,
9 any follow-up questions here in Springfield?

10 Any in Chicago?

11 MR. PAULEY: Yes.

12 HEARING OFFICER HORTON: Okay.

13 BY MR. RISOTTO:

14 Q. Steve Risotto again from ACC, and this is
15 a follow-up to one of our questions. And I
16 apologize for not knowing the number.

17 And in Paragraph B, Subsection 1, it
18 starts out, if disease or functional impairment is
19 caused due to a physiological mechanism for where
20 there is a threshold dose, so we're talking about a
21 chemical that has a threshold.

22 Then further on in that section it says,
23 if there is no MCLG for the substance, the guidance
24 level is either the human threshold toxicant

1 advisory concentration or the human nonthreshold
2 toxicant advisory concentration. And I'll just
3 highlight that the either and the human
4 nonthreshold toxicant advisory concentration are
5 proposed changes.

6 So if I have a substance that acts at a
7 threshold dose, why would I want -- why would I
8 consider the human nonthreshold concentration which
9 presumably doesn't exist?

10 BY MS. HAWBAKER:

11 A. The nonthreshold concentration represents
12 the carcinogenic toxicant concentration. So if
13 there is carcinogen data available and it meets
14 Illinois' requirements to be classified as a
15 carcinogen, then nonthreshold toxicant advisory
16 concentrations are calculated. If it's a noncancer
17 circumstance, then a human threshold toxicant
18 advisory concentration is calculated.

19 So we do use either one, and the reason it
20 was added is so that we could allow the -- those
21 more stringent of the two calculations to be
22 considered the standard so it protects for both
23 adverse effects and cancer effects.

24 MR. RISOTTO: Okay. Thank you.

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BY MR. RAO:

Q. I have a follow-up to that question, and it also follows up to the agency's answer to the Board's Question Number 2 which dealt with the same provision regarding the use of human nonthreshold concentration and the threshold concentration.

I just want to clarify whether the agency wants both nonthreshold and threshold concentrations to be determined for a carcinogen and then pick the lower one.

BY MS. HAWBAKER:

A. Yes. If there's a carcinogen value -- if it meets the definition of the Environmental Protection Act as a carcinogen and there is carcinogen toxicity data available, they should calculate both a carcinogen, an HNTAC calculation. And then they should also calculate a noncancer, an HTTAC, calculation. And the lower of -- the lesser of the two should be set at the groundwater quality standards so it protects against both cancer and noncancer effects.

But the only time -- the only time the --
(Reporter clarification.)

1 HEARING OFFICER HORTON: Maybe start over. The
2 only time, I think that's where you started. Start
3 over your response. I think you were starting with
4 the only time the --

5 MS. HAWBAKER: The only time the HT -- HNTAC,
6 the cancer, the nonthreshold toxicant advisory
7 concentration would come into play when it's an
8 Illinois designated carcinogen, and there's
9 carcinogen data available for it to be calculated.

10 BY MR. RAO:

11 **Q. And for a noncarcinogen under the rules**
12 **with the provision only HTTAC, the threshold**
13 **concentration?**

14 A. I'm sorry. Could you repeat your
15 question?

16 **Q. What -- how would you use this provision**
17 **for a noncarcinogen?**

18 A. We would calculate it with the procedures
19 in Appendix A, base it on the noncancer toxicity
20 data; and then we would take the concentrations of
21 both the HTTAC and the HNTAC, and we would look to
22 see which one is more stringent. And then we would
23 select the more stringent.

24 **Q. Okay. I just wanted to clarify that for**

1 **both carcinogen and noncarcinogen the same**
2 **procedures apply?**

3 A. Yes.

4 MR. RAO: Okay.

5 MR. PAULEY: We have a follow-up here.

6 MR. RISOTTO: Yeah. Steve Risotto, ACC, and I
7 should have asked it earlier.

8 BY MR. RISOTTO:

9 **Q. So your responses indicate that IEPA does**
10 **not believe that carcinogens can act through a**
11 **threshold mechanism; is that correct?**

12 A. We refer -- well, we refer to the
13 calculations as threshold and nonthreshold, and
14 those come from the USEPA. So a carcinogen -- a
15 nonthreshold carcinogen would be based on the
16 health-based guidance level at the -- using that
17 calculation.

18 Does that answer your question?

19 **Q. I think so. I guess, you know, EPA, at**
20 **least the non -- the offices that are not dealing**
21 **with pesticides have recognized that the substance**
22 **chloroform is -- does not cause carcinogenicity by**
23 **a nonthreshold mechanism, that there is a dose of**
24 **chloroform below which there is no cancer risk**

1 which to my way -- which by my learning is a
2 threshold.

3 So how would you approach developing a
4 value for a substance like chloroform that EPA says
5 is a threshold carcinogen?

6 A. Well, it's a circumstance where again if
7 chloroform, and I believe it is classified as a
8 carcinogen, and again there is data available,
9 carcinogenicity data available for it, then we
10 would calculate it as a carcinogen with a
11 nonthreshold calculation. Because a threshold
12 calculation does not use carcinogenic toxicity
13 data, and I do believe that's consistent with how
14 USEPA does it with the regional screening levels.

15 MR. RISOTTO: Okay. Thank you.

16 HEARING OFFICER HORTON: Okay. We'll move on
17 to 620, Appendix A. Are there any follow-up
18 questions here in Springfield on Appendix A?

19 In Chicago?

20 MR. PAULEY: No.

21 HEARING OFFICER HORTON: Okay. Any questions
22 here in Springfield?

23 Any in Chicago?

24 MR. PAULEY: Can you repeat what section this

1 is for?

2 HEARING OFFICER HORTON: Oh, I'm sorry,
3 Section 620, Appendix B as in boy?

4 MR. PAULEY: Nothing here.

5 HEARING OFFICER HORTON: Okay. Section 620,
6 Appendix C as in cat, any questions here in
7 Springfield?

8 Any in Chicago?

9 MR. PAULEY: No. Oh, sorry. Was that a yes?

10 MR. RISOTTO: Yes.

11 BY MR. RISOTTO:

12 **Q. This will be my last set of questions.**
13 **Steve Risotto, ACC, I guess we're at the end of the**
14 **regulation. I want to make sure I heard a response**
15 **earlier correctly.**

16 Paragraph A gives -- has two subparagraphs
17 as to when IEPA will consider substances similar
18 acting, same target organism and same mode of toxic
19 action. Is there an and? Is it and or or between
20 those two? Do you have to have both? Do both have
21 to be true or either one?

22 A. It's or.

23 **Q. It's or?**

24 A. It's either one of those.

1 Q. So now as I understand the Superfund, the
2 way EPA applies additivity in -- under the
3 Superfund program, they use the same -- the sub
4 item one, the same target organism to -- for -- as
5 a screening, but then look at the mode of action to
6 determine whether there should be additivity or
7 not.

8 Is that how you're applying this provision
9 or how you apply this provision?

10 A. Yes. But it does have to be -- you know,
11 it's a circumstance where -- actually, I misspoke
12 earlier. It is an and. There is -- we deal with
13 the same target organ -- no. I'm sorry. I did
14 speak correctly earlier. I was confusing myself.

15 So, yeah, this is -- in general this is
16 how it's looked at, but what we do is we rely on
17 the toxicity data usually that comes from RSO which
18 is the source of most of our groundwater quality
19 values toxicity values. Yes, we do look at these.
20 We do look at these a little bit different because
21 it can be either circumstance.

22 There can be certain mode of actions
23 that -- you know, they can affect the same target
24 organ, but they use a different mode of action, and

1 we would have still consider that. Or, if they
2 have different target organs but use the same mode
3 of action, then we also consider that. Some of our
4 similar acting circumstances are not necessarily
5 target organs, but there are things more like
6 developmental delays which is not a target organ,
7 things like that.

8 Q. Thank you for that.

9 And I guess when we think about a mode of
10 action, you know, as applied -- you've indicated
11 that liver toxicity is a mode of toxic action.
12 Sorry. The reg -- the Appendix C has, not you
13 personally. When we look at a mode of action for
14 liver toxicity, we look at something like, you
15 know, proximal zone proliferation as a mode of
16 action, not liver toxicity. Liver toxicity is a
17 generic apical effect. It is not a mode of action.

18 So we're very confused by what's in
19 this -- what's in this Appendix C cause it's mixing
20 apples and oranges in terms of health effects,
21 modes of action. So it's really hard to tell
22 exactly when you consider additivity and when you
23 don't based on what's in here.

24 A. Yeah. If they all again -- you know, if

1 they all contribute to liver toxicity which is what
2 I consider to be a mode of action, you know, a
3 toxic effect within the liver, although it also
4 qualifies as target organ, you know, we look at
5 those and we consider them.

6 Now, when you get into the specific
7 receptors of how the chemicals work for a mode of
8 action whereas you're saying you're getting into
9 some of the receptors and things such as that,
10 which I think is that where you were headed, you
11 know, we consider all of those modes of action and
12 all of those receptors if they're going for the
13 same mode that creates a hazard to an organ.

14 **Q. Okay. Thank you.**

15 I guess sort of to go to some of the --
16 how you apply it for -- would apply it for specific
17 substances. If I have two substances that both
18 affect the liver, and the value for one of the
19 substances is based on liver toxicity, but the
20 value for the other substance is based on
21 developmental effects.

22 How can you add those two values together?
23 How -- you know, when they're not based on the same
24 health end point, how do you determine additivity?

1 A. Yeah. We wouldn't in a circumstance like
2 that. They have to send -- they have to affect
3 either the same target organ or have the same --
4 the same effect. A chemical that has, as you put
5 it, a toxic effect on the liver may not necessarily
6 have a toxic effect that creates developmental
7 delays. Some of them have both.

8 We do know that several of the PFAS, you
9 know, some of them have both circumstances. But we
10 wouldn't look at them saying, well, we have a
11 developmental delay here, and we have liver
12 toxicity here, so that's similar. The mixture rule
13 or the dose addition is gonna apply. It would not
14 apply in that circumstance.

15 **Q. Okay. So but you've got -- and I know**
16 **it's true for the PFAS. You've got -- for some of**
17 **them you have multiple organs that are affected,**
18 **but the reference -- the value that you use is**
19 **based on only one of those health end points.**

20 So are you gonna apply that health end
21 point for that particular health effect to
22 another -- an effect in another organ? And how
23 does it -- how do you do that?

24 A. It's done with the same way it's been done

1 since they've been promulgated since 1991 which is
2 how you described it as being done. We do the --
3 we take our toxicity value that we use which may be
4 for one specific target organ or a mode of action
5 that we apply it as we have in the past as
6 mixtures. It's a method of conservancy. That's
7 how it's been used in both the 620 since its
8 promulgation and also in 742. It's with the same
9 way.

10 MR. RISOTTO: Okay. Thank you.

11 HEARING OFFICER HORTON: Okay. Any further
12 questions on this appendix in Chicago?

13 MR. PAULEY: No.

14 HEARING OFFICER HORTON: Okay. Moving on to
15 the last appendix, Section 620, Appendix E, any
16 questions here in Springfield?

17 Any IN Chicago?

18 MR. PAULEY: No.

19 HEARING OFFICER HORTON: Okay. I'd like to go
20 off the record.

21 (WHEREUPON, a short recess was
22 taken.)

23 HEARING OFFICER HORTON: We can go back on the
24 record.

1 BY MS. MANNING:

2 Q. This is a follow-up question to Board's
3 Question Number 1 and some of the questions you
4 were asked earlier today. The Board asked in
5 Question Number 1, what are other states doing in
6 IEPA's proposal compared to other states.

7 The response provided a summary of the
8 other states, but not an analysis of IEPA's view of
9 how its proposal here today equates to those of
10 other states.

11 In order to prepare for the next hearing
12 and for us to adequately ask whatever kind of
13 prehearing -- additional questions we need to ask,
14 will the IEPA present for the record a more
15 detailed analysis of how this proposal actually
16 compares to other states, and, if so, when might --
17 when might that comparison be provided?

18 BY MS. HAWBAKER:

19 A. Well, it depends on what you mean by
20 comparison. Do you want their toxicological
21 procedures? Do you want their equations? Do you
22 want their basis or do you simply want their
23 numbers?

24 Q. I think what I'd like is the IEPA's

1 analysis of why it went in the direction it did as
2 opposed to going with the approaches that other
3 states have gone, and the only way to do that is to
4 put on the record for the Board what those
5 approaches were with other states that were in
6 either accepted or rejected.

7 A. Well, we're following our Illinois
8 specific regulations. So I'm unclear as the
9 usefulness of the data because again this does not
10 use Illinois regulations, and Illinois does not use
11 Michigan regulations.

12 Q. But you're proposing new regulations, new
13 numbers, new analysis, new approaches that were not
14 utilized in some cases pursuant to the groundwater
15 previously -- or pursuant to Part 620 previously.
16 There are new -- there are new issues you are
17 developing in Part 620.

18 A. Could you be specific as to an issue?

19 Q. Well, you're changing definitions.
20 You're -- you know, and that gets into a lot of the
21 details of the questions we asked in our NWRA
22 questions that I'm not prepared to ask with the
23 specificity right now.

24 A. Okay.

1 Q. But certainly when EPA moved forward with
2 this proposal, it didn't do it just on the skeleton
3 of Part 620. A lot of this is very new. And a lot
4 of it may be the nature of PFAS, but it's new.
5 It's different. And I'm just wondering as to PFAS
6 really how the agency established its methodology
7 compared to how other states did and the agency's
8 rationale for it.

9 A. Yes. We used the IEPA toxicity hierarchy
10 to determine that, and then we used the USEPA
11 calculations for tap water to calculate the
12 carcinogen and the mutagen method.

13 Q. Okay. And whether other states went in
14 that direction or not from your perspective doesn't
15 really matter because they have different programs
16 than Illinois' program.

17 A. Right.

18 Q. And so it's all irrelevant to the Board's
19 consideration?

20 A. Well, again, when we're updating the
21 carcinogen equations, those are based on the
22 updates to the USEPA. They were the original
23 calculation that was there was based on that same
24 procedure. That procedure updated since over the

1 years since 1991 or 2008 actually. It's updated
2 its procedures. And so a lot of these are the same
3 procedures. They're just been updated in
4 accordance with USEPA's updates.

5 Q. Okay. So I'm gonna move on to my next
6 question then. That informs us in terms of what
7 follows-up questions we need to ask. And this
8 involves IEPA's response to NWRA's Question 1
9 and 2 which are general in nature for the most
10 part.

11 Question 1, we ask this because the IEPA
12 proposal has not yet been set for first notice.
13 These standards are not being proposed pursuant to
14 a legislative mandate, and the Board needs to make
15 a determination as to whether this particular
16 proposal is ready for first notice; that is, ready
17 to be put in the owner registers and --

18 (Reporter clarification.)

19 MS. MANNING: I'm sorry. I'll just state it
20 over again.

21 BY MS. MANNING:

22 Q. We asked this question, Question Number 1,
23 because the IEPA proposal has not been set for
24 first notice by the Board. The standards are not

1 being proposed pursuant to a legislative mandate as
2 has been the case with other programs. And the
3 Board yet needs to make a determination as to
4 whether this particular proposal and the numbers
5 being proposed are ready for first notice making it
6 a Board rule that's publishable in the Illinois
7 register with a one-year time frame for
8 promulgation.

9 So we asked in Question 1 that the vast
10 number of stakeholders comment to the EPA be
11 presented in the record at this proceeding. And
12 thank you in the filing yesterday you presented as
13 one of the attachments the various comments that
14 were submitted by the stakeholders.

15 In response -- in responding to questions
16 today, Mr. Andes asked you if you would summarize
17 in this proceeding what kinds of comments -- what
18 the EPA's evaluation of those comments were so that
19 we had a better understanding since in your
20 Statement of Reasons you told the Board you
21 considered all those comments. You rejected some.
22 You rejected most. You accepted some. And we
23 asked whether you would develop a compilation so
24 that the Board would have an understanding as to

1 what you did with each of those comments. And I
2 think the response was we're not required to do
3 that.

4 So in order to fully justify this as a
5 first notice proposal, I was wondering if the EPA
6 is prepared to submit a summary of how it evaluated
7 each of the specific comments. And, if not, then
8 that will inform us in terms of what we need to do
9 in preparation for the next hearing.

10 BY MR. DUNAWAY:

11 A. This is Lynn Dunaway.

12 We have never as a practice put together
13 that sort of summary. Our response is our
14 proposal.

15 Q. Thank you.

16 So in Question 2, NWRA's Question
17 Number 2, I asked the IEPA to point us to where in
18 the Statement of Reasons you address the comments
19 of -- I'm just gonna stick with the comments of the
20 Groundwater Advisory Committee at this point --
21 council actually. In an email presented with your
22 Statement of Reason, Miss Terranova stated that --
23 to the Groundwater Advisory Council that they would
24 you be addressed in the Statement of Reasons.

1 In looking at the Statement of Reasons I
2 don't see that the groundwater advisory comments
3 were, in fact, addressed, and those comments were
4 substantial. But, in a nutshell, they were
5 basically -- the proposal just isn't ready for
6 presentation as a rule yet, and let's all develop
7 some more time and wait to see what the USEPA is
8 doing before we move forward.

9 The IEPA and Board have a long history of
10 working with the Groundwater Advisory Council.
11 There are instances I have here that the Board, in
12 fact, talked in years previously about how
13 important the Groundwater Advisory Council is. In
14 Rulemaking 0017, June 7, 2001, it explains that the
15 agency developed its proposal in consultation with
16 the Groundwater Advisory Council. And the agency
17 and citizen body established under the Groundwater
18 Protection Act to, among other things, review,
19 evaluate and make recommendations regarding state
20 laws, regulations and procedures. There are other
21 things as well that indicate that the EPA has long
22 worked with the Groundwater Advisory Council.

23 So my question is, does the EPA -- why
24 does the EPA feel that this proposal is ready for

1 **being before the Board for a rule when the**
2 **Groundwater Advisory Council advised against it?**

3 BY MR. SUMMERS:

4 A. This is Michael Summers speaking.

5 I was the facilitator with the Illinois
6 EPA that works with the Groundwater Advisory
7 Council. Just to start off with some of the
8 answers to your questions, the Illinois EPA had
9 multiple comment periods, question and answer
10 sessions, and public meetings to address these
11 proposed changes.

12 At the time of the -- these were done, the
13 Groundwater Advisory Council was not staffed with a
14 quorum of individuals and members. The chairman
15 had resigned, and we reached out to try and --
16 essentially we reached out to the GAC members. We
17 had multiple meetings with GAC, three of them
18 during the spring and summer of 2001. We had
19 specific meetings where we talked about the
20 proposed changes. We had meetings where
21 Miss Hawbaker and Dunaway were available to answer
22 any questions from the GAC.

23 My own personal opinion, this is not the
24 EPA's opinion, but my own personal opinion is they

1 were not prepared to answer questions -- to ask
2 questions, I'm sorry -- to ask questions of what
3 was going on. We feel that we gave every
4 opportunity for the GAC members to comment and
5 provide recommendations to the proposed 620
6 regulations.

7 And you've seen what their response was to
8 us, that they did not feel -- they did not ask or
9 provide any comments or recommendations specific to
10 the proposed 620s, and they had ample opportunity
11 to look at what we proposed and to look at the
12 direction and how we were proposing things. And we
13 had multiple -- again I'm repeating myself, but we
14 had multiple meetings throughout 2001 where they
15 had the opportunity and did not avail themselves of
16 it.

17 **Q. Thank you. I have no follow-up on that.**

18 **Thank you.**

19 **And the final series of questions has to**
20 **do with our Question 7 through 22, again questions**
21 **from National Waste and Recycling Association,**
22 **NWRA. And those questions were specific to how the**
23 **Board's proposal today might apply to the**
24 **programs -- the waste regulation programs that have**

1 been adopted by the Board, particularly Part 807
2 for older landfills and Part 811 for federally
3 derived landfills, landfills that are pursuant to
4 the federal rules.

5 So potential changes in those programs
6 whether and when enforcement would occur on the
7 basis of the new proposed groundwater standards,
8 considering that the values proposed are based
9 primarily upon risk to health for those that
10 potable water and drinking water, which obviously
11 is a bleaching water.

12 Mr. Dunaway answered questions today
13 similar to how you responded to NWRA's questions in
14 writing is that costs are considered at this point
15 in time until the Board actually adopts the
16 standard, that everything will fall in place, and
17 we'll know what the costs will be.

18 Considering the economic reasonableness as
19 a standard required by the Environmental Protection
20 Act and the prior Board rulemakings, those that
21 have dealt with the Groundwater Protection Act,
22 particularly the first Groundwater Protection Act
23 Rulemaking 1991 that Miss Hawbaker referred to,
24 there was an economic study done performed by at

1 that time The Department of Environmental and
2 Science, it's called an ECAS. That's not before
3 the Board in this proceeding.

4 So I guess my question is, does the IEPA
5 consider the cost of applicability of these new
6 stringent regulations as to these other programs
7 not relevant to the Board's consideration in its
8 adoption of Part 620.

9 BY MR. DUNAWAY:

10 A. This is Lynn Dunaway.

11 Our explanation of the rules in Part 7
12 beginning, I'm sorry, 6, beginning at A, beginning
13 on Page 22, provides an explanation.

14 Q. Excuse me. Where was that?

15 A. It's -- we addressed technical feasibility
16 and economic reasonableness in Section 6 in our
17 Statement of Reasons which begins on Page 22, and I
18 believe that would address your question.

19 MS. MANNING: At this time I'm not gonna have
20 any further follow-up questions. Thank you.

21 HEARING OFFICER HORTON: I think that's it.

22 Any further follow-up questions in
23 Chicago?

24 MR. PAULEY: No.

1 HEARING OFFICER HORTON: All right. Well, then
2 this hearing is adjourned. Thank you all very
3 much.

4 (WHEREUPON, the hearing was
5 adjourned at 3:34 p.m.)
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1 STATE OF ILLINOIS)
2) SS:
3 COUNTY OF C O O K)
4

5 RAELENE STAMM being first duly sworn, on
6 oath says that she is a court reporter doing
7 business in the City of Chicago; and that she
8 reported in shorthand the proceedings of said
9 hearing, and that the foregoing is a true and
10 correct transcript of her shorthand notes so taken
11 as aforesaid, and contains the proceedings given at
12 said hearing.

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Certified Shorthand Reporter

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