

1                   BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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3       IN THE MATTER OF:

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5       PROPOSED AMENDMENTS TO        )

6       GROUNDWATER QUALITY            ) R08-18

7       STANDARDS                       ) (Rulemaking-Public Water

8       (35 Ill. Adm. Code 620)        ) Supplies.)

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13                   REPORT OF PROCEEDINGS had before the ILLINOIS

14       POLLUTION CONTROL BOARD held on June 18, 2008, at 9:30

15       o'clock a.m. at the 160 North LaSalle Street, Chicago,

16       Illinois.

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1 A P P E A R A N C E S:

2 ILLINOIS POLLUTION CONTROL BOARD:

3 MR. RICHARD MCGILL, Hearing Officer

4 MR. ANAD RAO, Senior Environmental Scientist

5 MR. THOMAS JOHNSON, Member

6 MR. NICOLAS MELAS, Member

7

8 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

9 Assistant Counsel

10 Division of Legal Counsel

11 BY: MS. KIMBERLY A. GEVING

12 MR. RICHARD COBB

13 DR. THOMAS C. HORNSHAW

14 1021 North Grand Avenue East

15 P.O. Box 19276

16 Springfield, Illinois 62794-9276

17 (217) 782-5544

18

19 ILLINOIS ENVIRONMENTAL REGULATORY GROUP

20 GENERAL COUNSEL

21 BY: MR. ALEC M. DAVIS

22 215 East Adams Street

23 Springfield, Illinois 62701

24 (217) 522-5512

1                   CHAIRMAN MCGILL: We'll go on the  
2 record. I'd like to say good morning to  
3 everyone, and welcome to you this Illinois  
4 Pollution Control Board hearing. Today we're  
5 in Chicago. It's the first hearing for this  
6 rulemaking. The second one is scheduled for  
7 July 16th, and that will be in Springfield.  
8 My name is Richard McGill. I'm the hearing  
9 officer in this rulemaking which is docketed  
10 as R08-18 and is captioned "In The Matter of  
11 Proposed Amendments To Groundwater Quality  
12 Standard 35IL.Adm.620. The Board's Part 620  
13 Groundwater Quality Standard implement  
14 provisions of both the Environmental  
15 Protection Act and the Illinois Groundwater  
16 Protection Act. On February 19, 2008 the  
17 board received a rulemaking proposal from the  
18 Illinois Environmental Protection Agency to  
19 amend these standards. The Agency states  
20 that the proposed amendments are intended to  
21 keep the regulations current with science,  
22 effect and technical advances. On March 20  
23 the Board accepted the Agency's proposal for  
24 hearing. On April 11, the Agency filed

1           errata sheet number one reflecting amendments  
2           to its proposal. And on May 29, the Agency  
3           filed errata sheet number 2, and the  
4           pre-filed testimony of Richard Cobb and  
5           Dr. Thomas Hornshaw.

6                         Also present today on behalf of the  
7           Board are members Thomas Johnson, the lead  
8           Board member for this rulemaking, Board  
9           member Nicolas Melas and from the Board's  
10          technical unit Anand Rao, and we're also  
11          joined by the Board's legal intern Katie  
12          Hindell.

13                        Today's proceedings are governed by  
14          the Board's procedural rules. All  
15          information that is relevant and not  
16          repetition or privileged will be admitted  
17          into the record.

18                        We will begin with the Agency's  
19          testimony followed by questions that the  
20          Board or members of the public may have for  
21          the Agency's witnesses. After that anyone  
22          else who did not pre-file testimony may  
23          testify as time permits. Those who testify  
24          will be sworn in and may be asked questions

1           about their testimony. For those who wish to  
2           testify but who did not pre-file, we have a  
3           witness sign-up sheet located at the back of  
4           the room. Toward the conclusion of today's  
5           hearing we will take up the Board's request  
6           that the Department of Commerce and Economic  
7           Opportunity perform an economic impact study  
8           or ECIS on the rulemaking proposal.

9                         For our court reporter, I would ask  
10           that everyone please speak up, not speak too  
11           quickly or talk over one another so we insure  
12           a clear transcript for the Board to consider.  
13           Are there any questions about our procedures  
14           for today?

15                         Seeing none, I would ask the court  
16           reporter to please swear in the Agency's  
17           witnesses collectively.

18                         (ALL WITNESSES SWORN)

19                         CHAIRMAN MCGILL: I would ask the  
20           Agency's attorney Kimberly Geving to begin  
21           the Agency's presentation.

22                         MS. GEVING: Good morning. I have two  
23           witnesses with me today that were just sworn  
24           in, Rick Cobb and Tom Hornshaw, and they are

1 going to be providing summary testimony as  
2 pre-filed accepted into the record as if  
3 read. If that's okay with the hearing  
4 officer.

5 CHAIRMAN MCGILL: And you have copies  
6 for me?

7 MS. GEVING: I do.

8 CHAIRMAN MCGILL: I've been handed the  
9 pre-filed testimony of Richard Cobb and the  
10 pre-filed testimony of Dr. Hornshaw. And I  
11 can mark those as Exhibits 1 and 2.

12 MS. GEVING: Please.

13 (Documents marked as Hearing  
14 Exhibit Nos. 1 and 2 for  
15 identification.)

16 HE COURT: Is Mr. Cobb testifying  
17 first?

18 MS. GEVING: He is.

19 CHAIRMAN MCGILL: Okay. For the  
20 record, is there any objection to accepting  
21 as a hearing exhibit and entering it into the  
22 record as if read, the pre-filed testimony of  
23 Richard Cobb? Seeing none, that motion is  
24 granted. And I have marked as Hearing

1 Exhibit 2 the pre-filed testimony of  
2 Dr. Hornshaw. Is there any objection  
3 entering this as a hearing exhibit and  
4 entering pre-filed testimony into the record  
5 as if read? Seeing none, that motion is also  
6 granted. So those will be Hearing Exhibits 1  
7 and 2. You want to take up the errata sheet  
8 No. 2?

9 MS. GEVING: Sure. I was going to show  
10 them copies of the exhibits to make sure they  
11 were the true and accurate copies.

12 CHAIRMAN MCGILL: Sure.

13 MS. GEVING: Mr. Cobb, I'm going to  
14 show you a document that's been marked as  
15 Exhibit No. 1 for the record and if you could  
16 identify that, please.

17 MR. COBB: Yes, this appears to be my  
18 testimony pre-filed in this matter.

19 MS. GEVING: Is it a true and accurate  
20 copy of what we filed before?

21 MR. COBB: Yes.

22 MS. GEVING: Dr. Hornshaw, Exhibit  
23 No. 2 for the record, would you please  
24 identify that?

1 DR. HORNSHAW: This is a copy of my  
2 pre-filed testimony.

3 MS. GEVING: Is it a true and accurate  
4 copy of what we filed with the Board?

5 DR. HORNSHAW: Yes.

6 MS. GEVING: Thank you very much. I've  
7 done a motion to accept that into the record.

8 CHAIRMAN MCGILL: I'll just jump the  
9 gun perhaps. I'll just repeat, is there any  
10 objection to either of these pieces of  
11 pre-filed testimony being admitted into the  
12 record as if read and entered as hearing  
13 exhibits? Seeing no objection, those motions  
14 are granted.

15 MS. GEVING: And seeing as we have also  
16 filed with the testimony errata sheet No. 2,  
17 I would like to show that to my witnesses,  
18 please.

19 If the both of you would please  
20 identify Exhibit No. 3 for the record.

21 MR. COBB: Exhibit 3 is an errata sheet  
22 that shows changes and some of the numerical  
23 values for some of the proposed Class 1 and  
24 Class 2 Groundwater Quality Standards. These

1 numbers were also reflected in my pre-filed  
2 testimony.

3 MS. GEVING: Is that a true and  
4 accurate copy of what we filed in court?

5 MR. COBB: Yes.

6 MS. GEVING: Dr. Hornshaw, do you  
7 agree?

8 DR. HORNSHAW: Yes.

9 MS. GEVING: At this time I'll ask that  
10 the Board accepts Exhibit No. 3 into the  
11 record.

12 CHAIRMAN MCGILL: Is there any  
13 objection to that? Seeing none, that will be  
14 admitted as Hearing Exhibit No. 3.

15 (Document marked as Hearing Exhibit  
16 No. 3 for the record.)

17 CHAIRMAN MCGILL: Would you like to  
18 proceed with the testimony?

19 MS. GEVING: Please.

20 Mr. Cobb, if you would provide a  
21 summary of the testimony you filed?

22 MR. COBB: I'd be happy to do that.  
23 I'm glad to be here today. This is the, I  
24 think counting the original proposal, this is

1 the fifth time that we've touched on the  
2 Groundwater Quality Standards, of course  
3 that's not including the original Groundwater  
4 Standard adopted by the Board in 1971, but in  
5 the adoption of the docket, Groundwater  
6 Quality Standards, 35 Illinois Administrative  
7 Code, Part 620, in the Docket R89-14B, the  
8 Illinois Pollution Control Board noted that  
9 it expected regular Agency updates of the  
10 Groundwater Quality Standards. And in  
11 particular where we've had public water  
12 supply standards that have been upgraded  
13 subject to arsenic.

14 In addition, in proposing these  
15 standards there are a series of thresholds or  
16 tests that had to be met out of the Illinois  
17 Groundwater Protection Act, and one of the  
18 key threshold tests is have contaminants been  
19 detected and quantified in Illinois  
20 groundwater. And for this particular  
21 proposal we worked with our colleagues in the  
22 Bureau of Land and specifically in the  
23 landfill monitoring, RECRA monitoring and  
24 federal clean up programs and discovered

1           there was a substantial database of  
2           contaminants that are being found in Illinois  
3           groundwater and confirmed and quantified in  
4           Illinois groundwater that did not have  
5           groundwater quality standards. So that was  
6           the main impetus for us coming with this  
7           proposal to update these standards. Of  
8           course along the way it became, you know,  
9           well, we're going to go through this process.  
10          We thought it prudent to update the  
11          incorporation by reference since quite a bit  
12          of time had passed since 1991 and a lot of  
13          those changes hadn't been updated. We also  
14          felt that it was important to, because of how  
15          progressed the Well Head Protection Programs  
16          are in Illinois since 1991 that we should  
17          incorporate that hydrogeologic data as part  
18          of the Board's compliance, Board's regulation  
19          standard compliance point concepts and the  
20          compliance determination section of the  
21          regulations. And also there were a number of  
22          new things in the 80's and 90's. The  
23          practical quantification limit was sort of  
24          the default limit that was used for many

1 things were, standards were derived according  
2 to the adopted health advisory procedure in  
3 subpart F of 35 Illinois Administrative Code,  
4 Part 620. Subsequently over the years it's  
5 been common practice to accept the ten to the  
6 minus six risk levels. So we tried to  
7 incorporate that. And in addition we've also  
8 incorporated the concept of water solubility  
9 simply because we rely on contaminant  
10 transport models to set a lot of the clean-up  
11 objectives these days, and the governing  
12 equations for those clean-up models do not  
13 really handle two phased contaminants. And  
14 so that's where the solubility comes in to be  
15 a very important factor, and so we can  
16 elaborate on that more or Dr. Hornshaw can  
17 elaborate on that a little more.

18 So with that, that background, that  
19 was our impetus for coming here. We felt it  
20 was also important to re-emphasize that the  
21 Board's standards are not just numerical  
22 standards that you can pollute up to, but  
23 section 12(A) of the act and the  
24 nondegradation provision, for any

1           contaminant, that there is a prohibition for  
2           polluting up to those standards, and it seems  
3           that a lot of people at times have forgotten  
4           that history, that there's always been a  
5           two-tiered system. You can't pollute up to  
6           the standard. So we wanted to emphasize that  
7           in the testimony. I'm open to any questions  
8           you might have at this time.

9           MS. GEVING: Thank you, Mr. Cobb.

10                         I think we'll let Dr. Tom Hornshaw  
11           do his summary of testimony and then we'll  
12           open it up to questions.

13                         DR. HORNSHAW: Good morning. My  
14           qualifications are that I have, as Rick Cobb  
15           has, participated in all of these hearings  
16           and updates over the years. I too  
17           participated in the original 620 standard  
18           development and I think most of the update.  
19           I don't know if it was all of them, but I've  
20           been around doing the groundwater standards  
21           and objectives for quite a while.

22                         In December of 2002, USEPA issued a  
23           memo to all of the Superfund Project managers  
24           a new hierarchy for selecting toxicity

1 criteria to use in all the risk assessments  
2 that EPA's project managers were supposed to  
3 do. Prior to this, the December 2002 memo,  
4 the superfund public health evaluation manual  
5 specified only two sources for toxicity  
6 criteria, EPA's Innovated Risk Information  
7 System, or IRIS, and Health Effects  
8 Assessment Summary tables or HEAST as the  
9 only places to get --

10 CHAIRMAN MCGILL: I'm sorry, just to  
11 make sure the court reporter gets the  
12 acronym, could you repeat that?

13 DR. HORNSHAW: Yes. The two acronyms I  
14 used were IRIS, Innovated Risk Information  
15 System and HEAST, Health Effects Assessment  
16 Summary Tables. And they were the only two  
17 sources that the EPA's project managers were  
18 to use in conducting their risk assessments.

19 After this memo was issued, there  
20 are now a different set of hierarchy for  
21 developing all these different risk  
22 assessment numbers. IRIS is still the first  
23 choice. HEAST is now the last choice or  
24 among the last choices. There's now, right

1 after IRIS, a data source from, again, from  
2 the USEPA called Peer Review Provisional  
3 Toxicity Values or PPRTV's, which are issued  
4 from the EPA's office. I'm going to skip it  
5 because I can't remember the name --

6 MEMBER RAO: It is actually Provisional  
7 Peer Reviewed Toxicity Values.

8 DR. HORNSHAW: Thank you. PPRTV.  
9 That's the second choice for toxicity  
10 information.

11 The third choice is actually a  
12 group of three sources which HEAST is one of  
13 the three, and probably the least recommended  
14 because HEAST stop being updated in 1997. So  
15 the information in the HEAST tables is now  
16 somewhat out of date or in some cases way out  
17 of date. The other two sources of  
18 information in the third tier are the  
19 toxicity data that's provided by the  
20 California EPA, which is an on-line data set  
21 or data source, and the Agency For Toxic  
22 Substances Disease Registry's minimum risk  
23 levels.

24 Because of these changes, my unit,

1 the toxicity assessment unit, has been  
2 updating all of the toxicity information that  
3 we have to use for developing clean-up  
4 objectives and toxicity values for air, soil,  
5 water and biota (SIC) exposures so that we  
6 can maintain or try to keep up to date as  
7 well as be in compliance with this memo from  
8 the EPA.

9 I went through this kind of long  
10 discussion to explain why we had to -- why  
11 there's so many changes that we're proposing  
12 to make in the 620 standards. We used this  
13 new hierarchy to update the TACO, Tier  
14 Approach to Corrective Action Objectives rule  
15 for 25 chemicals. We've updated the clean-up  
16 objectives based on the new hierarchy, and we  
17 also developed the standard for 15 newly  
18 detected chemicals that Mr. Cobb described  
19 that came from the Bureau of Land programs so  
20 that we could have updated values to propose  
21 to the Board for new standards or updated  
22 standards. Also as Mr. Cobb discussed, we  
23 have decided that solubility needs to be an  
24 upper limit on the clean or on the

1 groundwater standards and clean up objectives  
2 for the chemicals both in TACO and in 620 to  
3 prevent against two phased systems in  
4 groundwater. We also, among the toxins we  
5 have discussed --

6 CHAIRMAN MCGILL: I'm sorry, which  
7 unit?

8 DR. HORNSHAW: The toxicity assessment  
9 unit, my unit. We have discussed how to deal  
10 with carcinogens. The original version of  
11 620 for chemicals that don't already have a  
12 existing maximum contaminant level and are  
13 carcinogens, that the lowest detection limit  
14 among USEPA analytical methods was to be the  
15 standard for the clean-up objective. Since  
16 that time the EPA has, USEPA, has given us  
17 some guidance on using or the kinds of risk  
18 in their self-screening guidance rule, their  
19 screening value, is the One in a million  
20 Cancer Risk Level, that has been incorporated  
21 into TACO and now we're proposing to  
22 incorporate it into the 620 standards. So  
23 that for carcinogens that don't have MCLs, we  
24 are now proposing that the risk levels, ten

1 to the minus six risk level, will be the  
2 standard unless that level is lower than the  
3 detection limit in which case the detection  
4 limit be will be the standard or the clean-up  
5 objective.

6 In finishing up my testimony, I  
7 provide reasons why Errata Sheet 2 is sent to  
8 the Board to correct the initial filing long  
9 ago apparently that didn't consider new  
10 toxicity data, solubility, the One In A  
11 Million Risk Level or our internal decision  
12 to limit all future rule makings to two  
13 significant figures. And that concludes the  
14 summary of my presentation.

15 MS. GEVING: Mr. Hearing Officer, may I  
16 ask one clarifying question of Dr. Hornshaw?

17 CHAIRMAN MCGILL: Yes.

18 MS. GEVING: Dr. Hornshaw, you  
19 referenced updated values that we made to the  
20 TACO rules. Is that something that has  
21 already been proposed to the Board and  
22 amended in final form?

23 DR. HORNSHAW: No, this would be the  
24 one we are working on now.

1 MS. GEVING: So it has not yet been  
2 proposed to the Pollution Control Board?

3 DR. HORNSHAW: That's correct. What I  
4 discussed does not pertain to current TACO.  
5 It's what we will be proposing soon to  
6 address vapor intrusion as well as updating  
7 all the toxicity values.

8 MS. GEVING: Thank you, Dr. Hornshaw.

9 CHAIRMAN MCGILL: Thank you. I know we  
10 have -- is there any further testimony from  
11 the EPA?

12 MS. GEVING: We have concluded.

13 CHAIRMAN MCGILL: I know we have  
14 questions from one or more members of the  
15 public, so before the Board proceeds with its  
16 questions, we are going to open it up to the  
17 audience. I would just ask if you do have a  
18 question, you signal me and state your name,  
19 your title and the organization you are  
20 representing. Go ahead.

21 MR. DAVIS: My name is Alex Davis. I  
22 am here as the general counsel of the  
23 Illinois Environmental Regulatory Group, and  
24 I have some questions I'd like to ask just of

1 the witnesses and then whoever feels that  
2 they are best suited to address my questions,  
3 feel free to do so.

4 CHAIRMAN MCGILL: Thank you, go ahead.

5 MR. DAVIS: My first question, Section  
6 8 of the Illinois Groundwater Protection Act,  
7 in addition to setting forth the substantive  
8 requirements for regulations promulgated,  
9 also requires that the Department of Natural  
10 Resources concurrently conduct the study of  
11 the economic impact of the regulations. To  
12 your knowledge is the DNR conducting such a  
13 study concurrently with this rulemaking? And  
14 if so, when can we expect it to be filed with  
15 the Board?

16 MS. GEVING: I'm not testifying -- this  
17 is Kim Geving -- but I believe that it is the  
18 Department of Commerce & Economic Opportunity  
19 that now conducts the economic impact  
20 statements; is that correct? I'm not  
21 familiar.

22 MR. COBB: I'll try to answer.

23 CHAIRMAN MCGILL: Go ahead.

24 MR. COBB: At the beginning of the

1 hearing, Hearing Officer McGill made a  
2 statement about, I don't know if it's part of  
3 the Board's procedural rules or exactly why,  
4 but now the economic study is directed  
5 towards the Department of Commerce and  
6 Economic Opportunity, DCEO. And I believe  
7 that was made in your opening statement.

8 CHAIRMAN MCGILL: Yes, I am referring  
9 to Section 27 of the Environmental Protection  
10 Act and we will talk about that toward the  
11 end of today. Again, I'm not testifying, but  
12 I'm not sure exactly how Section 8 of the  
13 Groundwater Protection Act reads.

14 Do you have a follow-up question or  
15 does that answer your question?

16 MR. DAVIS: My follow-up question was  
17 going to be on what basis is the economic  
18 impact going to be analyzed. I think that  
19 probably leads to that.

20 MR. COBB: It's also, if you,  
21 Mr. Davis, if you go to page three and four  
22 of the Agency's Statement of Reasons we also  
23 provided the economic analysis that has been  
24 used and adopted in previous Board opinions

1           in many of the other dockets, and I think  
2           that the reason for the change is that when  
3           the Illinois Groundwater Protection Act  
4           provisions predated the amendments to  
5           Section 27 of the act, that when there used  
6           to be a Department of Commerce and Community  
7           Affairs, and then it was changed to the  
8           Department of Commerce and Economic  
9           Opportunity, and so I believe it's now the  
10          current requirement of Section 27. I mean  
11          it's almost a legal-type question. That  
12          would be my nonlegal response.

13                   MEMBER JOHNSON: I guess I'm confused.  
14           Are you referring to the economic impact  
15           study that the act directs us to conduct or  
16           are you looking at the --

17                   MR. DAVIS: The Groundwater Protection  
18           Act.

19                   MEMBER JOHNSON: -- economic reasonable  
20           test that the Board has to consider before?

21                   MR. DAVIS: I think they both factor in  
22           obviously.

23                   CHAIRMAN MCGILL: Let me just -- if you  
24           are going to testify, I need to have you

1 sworn in, and you are welcome do testify.

2 MR. DAVIS: I really rather not.

3 CHAIRMAN MCGILL: If you'd rather not,  
4 I guess we can take your statement as public  
5 comment. It wouldn't have the weight of  
6 sworn testimony, but I'd like to have -- I  
7 don't want to discourage the exchange, but  
8 you're here as an attorney, not as a witness  
9 so it would simply be considered as a public  
10 comment. Feel free to answer it, but I just  
11 want you to know it will be considered  
12 comment and not testimony.

13 MR. DAVIS: Well, my understanding of  
14 Section 8 was that it would require an  
15 economic impact study, and it specifically  
16 exempts the 27-B requirement from the  
17 Environmental Protection Act in Section 8 for  
18 the groundwater Section 8. So my reading was  
19 that that study was to be considered in place  
20 of the standard DCEO study right or wrong.

21 MR. COBB: I have another response on  
22 that. The original ECIS requirement in the  
23 groundwater Protection Act was for the  
24 full-blown regulation, including the

1 classification system, the nondegradation  
2 provisions, every section in the entire  
3 regulation. DNR did the original ECIS on the  
4 full-blown development of the regulation, and  
5 there were conclusions on that. So now we're  
6 just simply adding some additional  
7 contaminants, which is, you know, maybe one  
8 one-hundredth of the overall scope of what  
9 was considered in the original ECIS, and so  
10 the scope of the economic impact is, you  
11 know, nowhere similar to what was originally  
12 mandated there. And so that I think it is  
13 why it -- we've always looked at it the way  
14 it is, is that with the original full scope  
15 adopted those standards to discuss the impact  
16 and adding additional contaminants certainly  
17 doesn't really change the overall impact.  
18 These are not by default clean-up standards.  
19 They are simply groundwater quality  
20 standards. So for all the reasons stated in  
21 the original Board opinion of R89149(b) and  
22 all of the subsequent opinions since that  
23 time, I think is the basis for why a  
24 full-blown ECIS would certainly not be

1           necessary.

2                         CHAIRMAN MCGILL:  Yes, you know, the  
3           Board did submit a letter to the Department  
4           of Commerce & Economic Opportunity for this  
5           rulemaking.  Whether that was done in an  
6           abundance of caution or just sort of a  
7           routine, I'm not sure.  We would need to  
8           review -- I know there are instances where  
9           Section 27(b) where rule makings are exempt  
10          from the 27(b) ECIS requirement.  We would  
11          need to look at, you know, whether the  
12          provision in the groundwater Protection Act  
13          applies and whether this is being promulgated  
14          pursuant to that provision.  We have a second  
15          hearing in Springfield, so if we think we are  
16          subject to the 27(b) ECIS we can take it up  
17          at that point in time.  And we are going to  
18          have an opportunity to pre-file testimony for  
19          the second hearing, and that would certainly  
20          be an opportunity for IERG and the Agency to  
21          state what the Agency's position is on what  
22          sounds like really a legal issue.

23                         MR. JOHNSON:  Whether it be in an  
24          abundance of caution as you say, we're going

1 to go ahead and do the DCEO Economic Impact  
2 hearing today.

3 MR. MCGILL: We can do it, and if  
4 that's unnecessary, then we've lost 30  
5 seconds of our lives. It's no big deal. But  
6 if it does apply, then we will have met our  
7 requirement or we can do it in Springfield.  
8 But I'm ready to go today.

9 MR. DAVIS: Okay.

10 My second question is, is it the  
11 Agency's intention to regulate all  
12 groundwater in the state? As if it is to be  
13 used for drinking water?

14 MR. COBB: No.

15 MR. DAVIS: Would you care to elaborate  
16 just a little more?

17 MR. COBB: Sure. The groundwater  
18 classification system in the Board's  
19 groundwater quality standard regulations  
20 dictate how groundwater is regulated, and we  
21 didn't propose any changes to the  
22 classification system. So the answer is no.

23 MR. DAVIS: My third question is, what  
24 is the effect of incorporating 40 CFR,

1           144.66, the maximum contaminant levels for  
2           radionuclides that's incorporated in  
3           620.125(c) of the proposed amendment and  
4           where is it applicable?

5                   MR. COBB:  It's just an update of the  
6           previous incorporation by reference that was  
7           used simply for testing procedures, and where  
8           it's applicable is 35IlAd.620.410(e) the  
9           photon, the radioactivity and -- let me state  
10          this correctly for the record here -- beta  
11          particle and photon radio activity standard  
12          which already exists, and this is simply the  
13          testing procedure that has been updated since  
14          1991.  And that's where it applies.

15                   MR. DAVIS:  My fourth question.  The  
16          inorganic chemicals to be added or amended in  
17          the Class 1 standard that would be under  
18          section 620.410(a), arsenic, molybdenum,  
19          perchlorate and vanadium.

20                   CHAIRMAN MCGILL:  Could you just repeat  
21          those chemicals for the court reporter.

22                   MR. DAVIS:  The first was Arsenic,  
23          A-R-S-E-N-I-C, molybdenum,  
24          M-O-L-Y-B-D-E-N-U-M, the third perchlorate,

1 P-E-R-C-H-L-O-R-A-T-E and the last vanadium,  
2 V-A-N-A-D-I-U-M.

3 CHAIRMAN MCGILL: Thank you.

4 MR. DAVIS: -- which are metals, and  
5 why are they classified as such?

6 MR. COBB: Arsenic, molybdenum and  
7 vanadium are metals. Perchlorate is an  
8 inorganic compound. In terms of why things  
9 are metals versus why things are inorganic  
10 compounds, it's primarily because of the  
11 physical properties, you know; the metals are  
12 shiny, strong, solid, good heat conductors,  
13 good electrical conductors, dense and  
14 mailable. Chemists segregated the metals  
15 into the left-hand corner of the periodic  
16 table of the elements. Inorganic compounds  
17 are ions usually proposed and then composed  
18 of. And the compounds already put the cation  
19 and the anion the positively charged and the  
20 negatively charged, for example, sodium  
21 chloride and those. Chemists classified  
22 metals and inorganic substances in that way.  
23 Also inorganic substances or compounds are  
24 really natural in origin from minerals in the

1 earth's crust, as well as the metals. That's  
2 all I have.

3 MEMBER JOHNSON: That's enough for the  
4 Art majors.

5 MR. DAVIS: Going on. Page 14 of  
6 Mr. Cobb's pre-filed testimony contains a  
7 table describing the basis for the Class II  
8 Inorganic Standard. Could you please explain  
9 what is meant by Class I Standard, Irrigation  
10 Criterion 10 for Molybdenum and describe how  
11 the Class II standard was determined for this  
12 constituent.

13 CHAIRMAN MCGILL: Are you referring to  
14 the basis for Class II?

15 MR. DAVIS: That's right. There is a  
16 table describing the basis for the Class II  
17 inorganic standard in the pre-filed  
18 testimony. The page numbering, I think, was  
19 directly -- yes, page 14.

20 MEMBER RAO: Mr. Cobb, I'd like to add  
21 in Mr. Davis' process that we also had a  
22 question relating to the same standard, and  
23 just state our question so you can answer it  
24 together.

1                   On page 14, the groundwater  
2                   standard table lists the basis for the  
3                   proposed --

4                   MR. COBB: Can you repeat the question?  
5                   I was still thinking about that question.

6                   CHAIRMAN MCGILL: They are related  
7                   questions.

8                   MEMBER RAO: On page 14 the groundwater  
9                   standard table lists the basis for the  
10                  proposed Class II standards for molybdenum  
11                  and the same level as the Class I standard,  
12                  but it is also noted that the irrigation  
13                  standard is added in the table without any  
14                  units. Can you explain the rationale for  
15                  proposing the Class II standard for  
16                  molybdenum at the same level as the Class I  
17                  standard instead of the irrigation criteria?

18                  MS. GEVING: If we can pause for one  
19                  moment?

20                  CHAIRMAN MCGILL: Off the record.

21                                 (Discussion off the record, after  
22                                 which the following proceedings  
23                                 were had:)

24                  CHAIRMAN MCGILL: Let's go back on the

1 record.

2 MR. COBB: We'd like to get back to you  
3 on that one. It may be that we did something  
4 incorrect there. I thought I had the answer,  
5 but let us go back.

6 CHAIRMAN MCGILL: For both of the  
7 questions and the related question?

8 MR. COBB: It is the same I think.

9 THE COURT: Okay, thank you. Dave, in  
10 the same table next to perchlorate, the basis  
11 is described as 0X and it's done again for a  
12 number of constituents on pages 16 and 17 on  
13 those tables.

14 MR. COBB: Yes.

15 MR. DAVIS: Could you explain what is  
16 intended to be meant by 0X?

17 MR. COBB: What is meant there -- and  
18 maybe more correctly what I should have said  
19 is 1X, but what that is referring to is the  
20 treatability factor. And the Board's water  
21 quality standards for many of the  
22 contaminants that are listed for Class II are  
23 derived based on the best available treatment  
24 technology that's available for that

1           contaminant, and we generally try to use an  
2           80 percent value just because many of them  
3           are actually 99, so you are even more  
4           economically reasonable if you use the  
5           instigation 80 percent. The reason that  
6           perchlorate is 1X is because there is no best  
7           available treatment technology, so we didn't  
8           factor up the numbers for perchlorate.

9                           And then the other chemicals,  
10           although when you get into the organics, it's  
11           similar, but there's a couple of other  
12           procedures that we used that are actually  
13           highlighted on page 16 of my testimony. It's  
14           a similar concept, but we use a few  
15           additional scientific criteria. Perchlorate,  
16           since it's organic, we look for any best  
17           treatment technologies, and there are not.  
18           So there is no treatability factor so it  
19           doesn't get the multiple that some of the  
20           other contaminants get.

21                           MS. GEVING: So, Mr. Cobb, is it your  
22           desire to change all of your references in  
23           your written testimony to 1X or is it correct  
24           to leave it at 0X?

1                   MR. COBB: I think to be absolutely  
2 technically correct, although I think  
3 everybody knows what 0X means, if we really  
4 wanted from a mathematical standpoint to be  
5 correct, maybe it should be 1.

6                   CHAIRMAN MCGILL: 1X.

7                   MR. COBB: Yes. Or I think commonly  
8 everybody knows we're not multiplying the  
9 number.

10                  MR. DAVIS: Next I'd like to ask you  
11 about the table on page 12, where on the top  
12 of page 12 arsenic is noted as a carcinogen  
13 with an asterisk, and there are a number of  
14 places where arsenic is listed both in the  
15 proposal and in the table on page 14 where it  
16 is not, so I was hoping that could clear it  
17 up.

18                  MR. COBB: That's just an oversight.  
19 It is a carcinogenic. So there should be an  
20 asterisk added.

21                  MR. DAVIS: So page 14 on that table  
22 should be an asterisk?

23                  MR. COBB: Yes.

24                  MR. DAVIS: And then in the rulemaking

1           proposal as well?

2                   MR. COBB:  Yes.

3                   CHAIRMAN MCGILL:  So you are referring  
4           to there should be an asterisk next to  
5           arsenic?

6                   MR. COBB:  It is a carcinogenic.

7                   MEMBER RAO:  While we are on the same  
8           subject, I have one more.  On page 11,  
9           Mr. Cobb, of your pre-filed testimony you  
10          noted that the carcinogens are noted in the  
11          standards by an asterisk.  Could you identify  
12          whether dibenzo(a,h)anthracene whether it  
13          should be listed under section 624.10(b) with  
14          an asterisk to indicate that it's a  
15          carcinogenic?

16                   MR. COBB:  In the testimony it's  
17          marked.  It should also be similarly marked  
18          in the proposal.

19                   MR. RAO:  That's what I wanted to  
20          clarify.

21                   MR. COBB:  Right.

22                   CHAIRMAN MCGILL:  Mr. Davis, did you  
23          have any more questions?

24                   MR. DAVIS:  Yes, just a couple more.

1           We already talked about figures 1 and 2. For  
2           the record, the attached paper entitled  
3           "Arsenic and Illinois groundwater" refers to  
4           figures 1 and 2 which are not included in the  
5           pre-filed testimony. And my question is  
6           could you provide the two figures?

7                     MR. COBB: Yes.

8                     MS. GEVING: We'll provide those at the  
9           second hearing.

10                    CHAIRMAN MCGILL: And these are the  
11           attachments you are referring to, the arsenic  
12           study attached to Mr. Cobb's pre-filed  
13           testimony?

14                    MR. DAVIS: That's right.

15                    CHAIRMAN MCGILL: Thank you.

16                    MR. DAVIS: My next question is  
17           multiple parts relating to page 9 of  
18           Dr. Hornshaw's pre-filed testimony in which  
19           he described the proposed 620.605(c) which  
20           calls for setting the guidance level of a  
21           chemical and the water solubility of that  
22           chemical if the water solubility is less than  
23           the calculated guidance level. And I would  
24           like you to give me an example where this was

1           utilized in setting the standards, what  
2           numbers were used in reaching that, and why  
3           it was that you determined it was appropriate  
4           to use that, although I think you did get  
5           into that somewhat in your summary.

6                     DR. HORNSHAW:  Yes, I think I covered  
7           that fairly well in my summary.  And as an  
8           example, if you look at Section 620.410(a)  
9           and (b) the chemical anthracene, we are  
10          proposing a standard of .043 milligrams per  
11          liter based on water solubility.  If you use  
12          the IRIS toxicity values as the basis for  
13          calculating a health base value, the  
14          concentration in groundwater would be 2.1  
15          milligrams per liter for Class I groundwater,  
16          and 10.5 milligrams per liter for Class II  
17          groundwater.  Both values way exceed the  
18          solubility, so we're proposing to have  
19          solubility be the basis for the standard for  
20          that chemical.  And there are several others  
21          in the rule that are similar to that.

22                     MR. DAVIS:  So the standard is proposed  
23          043?

24                     DR. HORNSHAW:  That's correct.

1                   MR. DAVIS: And the other numbers were  
2 based on the health based result.

3                   CHAIRMAN MCGILL: I'm sorry, could  
4 you -- you trailed off there at the end.

5                   MR. DAVIS: I said the other numbers,  
6 the 2.1 and the 10.5 were the result of the  
7 health based calculations.

8                   CHAIRMAN MCGILL: Dr. Hornshaw, that's  
9 correct.

10                  DR. HORNSHAW: That's correct.

11                  CHAIRMAN MCGILL: All right. Thank  
12 you.

13                  MR. DAVIS: And then a follow-up on  
14 that, could you please explain the difference  
15 between effective solubility and listed or  
16 laboratory solubility and which is used in  
17 their rulemaking.

18                  DR. HORNSHAW: Yes. I'm a little  
19 confused about why you are asking about  
20 effective solubility because it's not  
21 included in the testimony. It's not used in  
22 the rule making, but I'll give a definition  
23 that Mr. Cobb pulled off of the Mississippi  
24 Department of Environmental Qualities

1 Regulations, their definition for Effective  
2 Solubility "Means the solubility of a  
3 compound that will dissolve from a chemical  
4 mixture, for example gasoline." The  
5 effective solubility of a compound of a  
6 chemical mixture is less than its aqueous  
7 solubility.

8 MR. DAVIS: Okay. And then so the  
9 aqueous solubility would be the listed or  
10 laboratory solubility?

11 DR. HORNSHAW: That's correct.

12 CHAIRMAN MCGILL: Thank you. I'm  
13 sorry, you had a follow-up?

14 MR. DAVIS: No, that was it for that  
15 question.

16 CHAIRMAN MCGILL: I had a related  
17 question. Did you still have --

18 MR. DAVIS: I had one more, but go  
19 ahead.

20 CHAIRMAN MCGILL: Yes, thanks. This is  
21 for either of you. The Agency lists water  
22 solubility for the basis of several Class I  
23 and Class II standards, please provide  
24 citations of the publications from which the

1 Agency derived the water solubility standard  
2 to develop the standard that. Is that  
3 something you could provide?

4 DR. HORNSHAW: I would have to do that  
5 at the next hearing or maybe in a written  
6 summary.

7 CHAIRMAN MCGILL: A number of our  
8 questions we don't expect an on-the-spot  
9 answer.

10 DR. HORNSHAW: I can explain a little  
11 bit though.

12 CHAIRMAN MCGILL: Sure, go ahead.

13 DR. HORNSHAW: USEPA also has a  
14 hierarchy for physical chemical contents and  
15 physical data sources. The preferred source  
16 is the Superfund Chemical Data Matrix System,  
17 which is an on-line database that anybody can  
18 get to to pull down all kinds of physical  
19 chemical contents, including solubility. My  
20 guess is most of the values that we are  
21 proposing come from this EPA database, but  
22 there are some others and I would have to  
23 check each individual chemical to make sure  
24 which database the solubility value came

1 from. And those have also been recently  
2 updated, as well as the toxicity contents.  
3 So we're changing a lot of things in both  
4 this rule and 620 because of the changes in  
5 the physical chemical constants and the  
6 toxicity constants.

7 MS. GEVING: Dr. Hornshaw, you said  
8 both this rule and 620. Did you mean both  
9 this rule and the TACO rule?

10 THE WITNESS: And the TACO rules.

11 MS. GEVING: Which have not yet been  
12 proposed to the rule?

13 MEMBER RAO: I think it will be helpful  
14 for the Board to have the names of those  
15 publications or sources since what we have in  
16 our library had different values for  
17 solubility. So I think we'd like to get that  
18 into the record as to what the Agency used as  
19 solubility for various chemicals.

20 MS. GEVING: Dr. Rao -- Mr. Rao, would  
21 it satisfy you if we did a table that listed  
22 the chemical and its source?

23 MR. RAO: Yes. And like Mr. McGill  
24 said, as we go through our questions, you'll

1 see that a lot of information can be put in a  
2 table form.

3 CHAIRMAN MCGILL: Mr. Davis?

4 MR. DAVIS: My last question refers to  
5 pages five and six of Dr. Hornshaw's  
6 pre-filed testimony in which he describes the  
7 addition of the groundwater objectives from  
8 TACO. And I was hoping that you could just  
9 elaborate these in further detail as to why  
10 you thought it was necessary to include these  
11 chemicals in the groundwater value.

12 MR. COBB: Mr. Davis, is it okay if I  
13 address that?

14 MR. DAVIS: Yes, whoever wants to  
15 address it.

16 MR. COBB: Essentially the Illinois  
17 groundwater Protection Act mandates to us to  
18 develop Groundwater Quality Standards for  
19 contaminants that have been detected and  
20 confirmed in Illinois groundwater. Further,  
21 as in my summary testimony, summary of my  
22 testimony provided earlier, the Board has  
23 requested us in R8914(b) opinion to continue  
24 to provide regular updates of the Groundwater



1                   CHAIRMAN MCGILL: We'll go back on the  
2 record and add to the Board's questions.

3                   MR. RAO: Our questions initially are  
4 directed to Mr. Cobb, but any one of you can  
5 answer this.

6                   At page 11 of your pre-filed  
7 testimony you state that the proposed  
8 standards are based on either USEPA MCL or  
9 Board MCL, a reference dose, also known as  
10 RfD, in USEPA's Integrated Risk Information  
11 System (IRIS) USEPA Health Effects Assessment  
12 Summary Table (HEAST), RfD, Provisional Peer  
13 Reviewed Toxicity Values (PPRTV), RfD, and  
14 IRIS Slope Factor, (Sfo).

15                   First question, "Please clarify  
16 whether USEPA MCLs are the same as the Board  
17 MCLs. If not, please explain any differences  
18 between the two."

19                   MR. COBB: Yes. For arsenic we have  
20 the pass-through requirement into  
21 35Il.Ad.611, and for arsenic, you've already  
22 established -- the Board has already  
23 established a drinking water standard for  
24 arsenic, so yes.

1                   MR. RAO: "The proposed standards for  
2                   several inorganic and organic chemical  
3                   constituents are based on RfDs and Sfos  
4                   obtained from the various USEPA databases.  
5                   Please explain how the Agency used RfDs and  
6                   Sfos to derive the proposed standards for  
7                   various chemical constituents. Would the  
8                   Agency be able to update the tables on pages  
9                   12 and 13 of your testimony to include the  
10                  appropriate RfD values used to determine the  
11                  proposed standards? And also, would the  
12                  Agency be able to submit pertinent  
13                  documentation from the USEPA databases  
14                  concerning the RfDs and Sfos used to derive  
15                  the propose standards?"

16                                 It's a two-part question.  
17                   Basically what we are asking for is the  
18                   documentation and calculations that you did.

19                   DR. HORNSHAW: All of the IRIS  
20                   reference dose information?

21                   MR. RAO: Just the relevant, what was  
22                   the RfD used.

23                   DR. HORNSHAW: Yes, we could do that.

24                   MR. RAO: Because you have provided a

1 table. I think it's in Mr. Cobb's testimony.  
2 If you could add a couple more columns to it  
3 and add information to the specific  
4 information to each of those chemicals, that  
5 would be helpful for the record.

6 DR. HORNSHAW: So I'm clear, do you  
7 want the individual chemicals that are  
8 changed here; you want the basis for the  
9 change?

10 MR. RAO: Yes. You have the basis in  
11 the table saying it's IRIS, RfD or TACO  
12 groundwater objective, and what we want to  
13 know is what is the number you used.

14 DR. HORNSHAW: Oh, the actual value?

15 MR. RAO: Yes. The basis is already  
16 there.

17 DR. HORNSHAW: That's what was  
18 confusing me because everything was IRIS,  
19 it's carcinogenic.

20 MEMBER RAO: Yes, but we want the  
21 supporting documentation.

22 DR. HORNSHAW: You want the actual  
23 number?

24 CHAIRMAN MCGILL: I'm sorry to

1 interrupt, but you are starting to talk over  
2 each other and finishing each other's  
3 sentences.

4 Dr. Hornshaw, you are clear on what  
5 Mr. Rao is asking for?

6 DR. HORNSHAW: You want just the  
7 reference dose number itself, correct?

8 MEMBER RAO: Yes.

9 DR. HORNSHAW: You don't want the  
10 entire citation from the IRIS database?

11 MEMBER RAO: Yes, I know, but I think  
12 the relevant information from the IRIS  
13 database.

14 DR. HORNSHAW: That's easy. Yes, we  
15 can do that.

16 MEMBER RAO: Please clarify whether any  
17 of the proposed Class I standards are based  
18 on the RfDs from USEPA's HEAST database?

19 DR. HORNSHAW: Again, to be clear, are  
20 you talking about the new and updated  
21 chemicals or the entire list of the  
22 chemicals?

23 MEMBER RAO: I'm looking at Mr. Cobb's  
24 testimony on pages 12 and 13 on the table.

1           On page 11, Mr. Cobb states that you relied  
2           on HEAST's RfDs in coming up with some of  
3           these standards. And when I look at the  
4           table I didn't see HEAST mentioned anywhere  
5           on those tables. So I just want to know  
6           whether, first of all, you used information  
7           from the HEAST database?

8                     DR. HORNSHAW: The answer to that is  
9           no.

10                    MEMBER RAO: Okay.

11                    DR. HORNSHAW: At this point HEAST is  
12           just about the last choice for getting  
13           toxicity constants. If none of the other  
14           preferred sources have a constant, then we  
15           will use HEAST because it's last updated in  
16           1997. For this update we only -- internally  
17           we decided we were only going to propose  
18           standard that had a reference dose or cancer  
19           slope factor in IRIS or the PPRTV table.

20                    MEMBER RAO: Okay.

21                    DR. HORNSHAW: We decided that even  
22           before we started looking for tox constants.

23                    CHAIRMAN MCGILL: I'm sorry, for?

24                    DR. HORNSHAW: Toxicity constants.

1                   CHAIRMAN MCGILL: Toxicity constants?

2                   DR. HORNSHAW: The toxicity criteria  
3 that we based calculations on. Before we  
4 even started developing the new values  
5 internally, we decided we were only going to  
6 use the first two tiers of IEPA's tiered  
7 system.

8                   MEMBER RAO: Okay.

9                   DR. HORNSHAW: And as it turned out,  
10 all of the chemicals that we were proposing  
11 for update had reference doses from IRIS so  
12 you don't even see PPRTV as a source.

13                  MEMBER RAO: So it's all right for us  
14 to ignore the statement where it's said that  
15 IEPA relied on the HEAST database?

16                  MS. GEVING: Yes. If we could strike  
17 that from the testimony officially from the  
18 record.

19                  DR. HORNSHAW: I apologize that's  
20 probably something I should have elaborated  
21 on in my testimony.

22                  MEMBER RAO: Because when I was going  
23 through that information I didn't find any  
24 numbers from HEAST.

1                   CHAIRMAN MCGILL: On page 11 of  
2                   Mr. Cobb's pre-filed testimony there is a  
3                   statement that some of the proposed standards  
4                   are based on MDLs used to derive Part 620,  
5                   Subpart F, Appendix A: Human Threshold  
6                   Toxicant Advisory Concentration for TACO  
7                   groundwater objectives under Part 742. Would  
8                   you please clarify whether all of the  
9                   proposed standards based on TACO groundwater  
10                  objectives are based on MDLs?

11                  DR. HORNSHAW: Just for the record,  
12                  MDLs are method detection limits.

13                  CHAIRMAN MCGILL: Would you like me to  
14                  repeat the question?

15                  MR. COBB: Yes, could you do that?

16                  CHAIRMAN MCGILL: On page 11 of  
17                  Mr. Cobb's pre-filed testimony there is a  
18                  statement that some of the proposed standards  
19                  are based on MDLs used to derive the Part  
20                  620, Subpart F, Appendix A: Human Threshold  
21                  Toxicity Advisory Concentration for TACO  
22                  groundwater objectives. Please clarify  
23                  whether all of the proposed standards based  
24                  on TACO groundwater objectives are based on

1 MDLs?

2 MS. GEVING: We'd prefer to answer at  
3 the second hearing if that's okay. We have  
4 to do a little research.

5 CHAIRMAN MCGILL: The other question or  
6 request is to explain how MDLs were used to  
7 derive the proposed standards for which TACO  
8 groundwater objectives are listed as the  
9 basis for the standards; an explanation of  
10 how MDLs were used to derive the proposed  
11 standards for which you've indicated TACO  
12 groundwater objectives are the basis.

13 MS. GEVING: We'll address that at the  
14 second hearing too if that's okay.

15 CHAIRMAN MCGILL: The next request is  
16 that, we noted that the proposal lists the  
17 acronyms for several chemical constituents in  
18 section 620.410. That's 620.410. Please  
19 provide the chemical names for alpha-BHC,  
20 MCPP, HMX, and lastly RDX.

21 MR. COBB: We can do that.

22 MS. GEVING: Do you need to do that at  
23 the second hearing?

24 MR. COBB: Yes.

1 DR. HORNSHAW: HMX stands for high  
2 mount explosive, but its technical name --  
3 I'm not even go to try it. It's about this  
4 long (indicating).

5 CHAIRMAN MCGILL: I could answer, but  
6 I'm not testifying.

7 Next question. On page 14 of  
8 Mr. Cobb's pre-filed testimony there is a  
9 statement that "The proposed Class II  
10 standard for inorganic constituents are based  
11 on irrigation and livestock watering from a  
12 1972 report published by the National Academy  
13 of Sciences entitled 'Water Quality  
14 Criteria.'" Would the Agency be able to  
15 submit a copy of the NAS report or at least  
16 the relevant pages of the report?

17 MR. COBB: We can do that. I'm not  
18 sure -- because that was an attachment as  
19 part of our original testimony for R914(b) as  
20 well, so I don't know if that's in the  
21 Board's record, but we can certainly do that.

22 CHAIRMAN MCGILL: It's probably in our  
23 clerk's office or microfiche, but it would be  
24 helpful to have it in R078-18.



1 objectives, which are also being proposed as  
2 the Class II standards in the instant  
3 proposal.

4 MR. COBB: I'll have to defer to Tom on  
5 that.

6 DR. HORNSHAW: I'm pretty sure the  
7 answer is, yes, other than when it would  
8 result in a value that's higher than  
9 solubility.

10 MEMBER RAO: Okay. And we are on  
11 question 9 now.

12 All of the proposed Class II  
13 standards, which are based on water  
14 solubility, are set at the same level as the  
15 Class I standards except for benzo(a)pyrene,  
16 benzo(k)fluoranthene, and methoxychlor.  
17 Please explain the Agency's intent for  
18 setting these at levels different than Class  
19 I standards.

20 DR. HORNSHAW: Could you repeat the  
21 question or the chemicals generated?

22 MEMBER JOHNSON: The name of the  
23 chemicals?

24 DR. HORNSHAW: You said benzo(a)pyrene,

1           benzo(k)fluoranthene --

2                   MEMBER RAO: Benzo(a)pyrene and  
3 methoxychlor, the levels are not the same as  
4 Class I. I want to know how the water  
5 solubilities address separating these  
6 standards.

7                   DR. HORNSHAW: For benzo(a)pyrene, the  
8 Class II value is limited at solubility.

9                   MEMBER RAO: Then should we limit the  
10 Class I also at water solubility?

11                  DR. HORNSHAW: I believe the Class I  
12 standard doesn't exceed the solubility or  
13 equals the solubility. I can't remember for  
14 sure -- I'm sorry, I take that back, the  
15 Class I standard is a federal MCL, which we  
16 don't change.

17                  MEMBER RAO: I thought under the  
18 hierarchy you were going to limit everything  
19 to water solubility.

20                  MR. COBB: With the exception of the  
21 MCL.

22                  MEMBER RAO: Is that right?

23                  DR. HORNSHAW: Apparently. I may have  
24 to look at that one. I know that's the case

1 for methoxychlor because once you get point  
2 .045 you are at the water solubility. If you  
3 multiply the Class I standard by 5 you would  
4 be at 0.2 which far exceeds the solubility.  
5 And I believe that's the exact same thing for  
6 benzo(k)fluoranthene. If you multiply Class  
7 I by five it comes out to .00085, which  
8 exceeds the solubility by a small margin. I  
9 think I'm going to have come to back to you  
10 on benzo(a)pyrene.

11 MEMBER RAO: Okay.

12 CHAIRMAN MCGILL: The next question:  
13 According to the table on page 16 of Mr.  
14 Cobb's pre-filed testimony and Errata Sheet  
15 No. 2, the proposed Class II standards for  
16 benzo(a)pyrene is 0.001 milligrams per liter.  
17 On page 17 of that pre-filed testimony there  
18 is a statement that the existing Class II  
19 standard should be amended to 0.00002  
20 milligrams per liter based on its water  
21 solubility. Please clarify which value  
22 represents the limit based on water  
23 solubility of benzo(a)pyrene, 0.0016  
24 milligrams per liter or 0.0002 milligrams per

1 liter.

2 DR. HORNSHAW: That's essentially the  
3 same question that was asked, and we are  
4 going to come back and check the solubility  
5 to be sure.

6 CHAIRMAN MCGILL: Okay. Thank you.

7 MEMBER RAO: Now, moving on to question  
8 11.

9 The proposed Class II standards for  
10 explosive compounds at 620.420(c) are set at  
11 the same levels proposed for Class I  
12 groundwater. Please clarify whether Koc  
13 values or the Henry's law constants for these  
14 compounds are below threshold values  
15 considered by the Agency for setting  
16 standards based on treatability.

17 MR. COBB: This is similar to  
18 perchlorate where we didn't -- for most of  
19 the organic contaminants we looked at the Koc  
20 and those factors, but in these factors we  
21 just looked to see if there was a best  
22 available treatment technology, which there  
23 is none and that was the basis. So it's the  
24 same as for the perchlorate.

1                   CHAIRMAN MCGILL: On page 18 of Mr.  
2                   Cobb's pre-filed testimony, this is regarding  
3                   the proposed changes to Class IV groundwater  
4                   quality standards pertaining to explosive  
5                   contaminants, there is a statement that the  
6                   designation of a previously mined area is  
7                   being proposed because it moves the  
8                   compliance point from the pit of the mine to  
9                   the boundary of the permitted area in order  
10                  to establish off-site contamination. Could  
11                  you clarify whether the proposed changes are  
12                  intended to apply only to "previously mined  
13                  area" which is a defined term in Section  
14                  620.110, and that definition limits the area  
15                  to land disturbed or effected by coal mining  
16                  operations prior to February 1, 1983.

17                  MR. COBB: Yes.

18                  CHAIRMAN MCGILL: Thank you. Page two  
19                  of Dr. Hornshaw's pre-filed testimony there  
20                  is a reference to a USEPA memorandum dated  
21                  December 5, 2003 concerning Human Health  
22                  Toxicity Values in Superfund Risk  
23                  Assessments. Would the Agency be able to  
24                  submit a copy of the memo?

1 DR. HORNSHAW: Oh, yes. I think that's  
2 supposed to be 2002, but I'll check. It may  
3 be a typo in there. But, yes, we can submit  
4 a copy of that memo.

5 CHAIRMAN MCGILL: Thank you.

6 On page 3 of that pre-filed  
7 testimony there is a note, one of the issues  
8 concerning the new hierarchy of toxicity  
9 values pertains to the retirement of  
10 Provisional Peer Reviewed Toxicity Value by  
11 USEPA. The first question is, can you  
12 clarify whether retirement of a PPRTV for a  
13 chemical means that USEPA has established a  
14 permanent reference dose for the chemical or  
15 just dropped the value from its database?

16 DR. HORNSHAW: They've dropped the  
17 value from it's database. THE PPRTV people  
18 send quarterly updates to everybody who  
19 prescribes. The values that are retired,  
20 their retirement is probably because they  
21 have not progressed in the pipeline. The  
22 PPRTV database is basically all the chemicals  
23 that the EPA is looking for in addition to  
24 the IRIS database and provided ahead of time.

1           If the chemical is not going to move on to  
2           the higher standards, they have to retire  
3           those chemicals. The most recent update  
4           didn't have any chemicals listed as retired,  
5           so I'm not sure where they are going with  
6           this at this point.

7                         MEMBER RAO: Moving on to the next  
8           question, 15. On page four of your pre-filed  
9           testimony regarding -- this is for  
10          Dr. Hornshaw again -- regarding subchronic  
11          exposures, you state that the Agency used the  
12          IRIS values with the Uncertainty Factor  
13          removed for some of the chemical constituents  
14          as the first tier when available. Could you  
15          please identify the chemical constituents for  
16          which this procedure was used to develop the  
17          proposed standards.

18                        DR. HORNSHAW: I only included this as  
19          an example of some of the problems we were  
20          having. This actually pertains to TACO  
21          because we don't use subchronic values in the  
22          620 rules. We only use the values.

23                        MEMBER RAO: So this doesn't apply --

24                        DR. HORNSHAW: It doesn't apply. I

1 just included that as one of the examples  
2 where we were having some internal  
3 discussions on where to proceed.

4 MEMBER RAO: So all of the RfD values  
5 that you used from IRIS are without any  
6 modification?

7 DR. HORNSHAW: That's correct.

8 MEMBER RAO: On page 4 you state that  
9 changes needed in TACO because of the new  
10 hierarchy will be addressed when the next  
11 revision to TACO rules are proposed to the  
12 Board. Please clarify whether the TACO  
13 groundwater objective for 1, 1-Dichloroethane  
14 of 0.7 milligrams per liter, which is lower  
15 than the proposed Class I standards of 1.4  
16 milligrams per liter is one of the needed  
17 revisions that we dealt with in the TACO  
18 rulemaking?

19 DR. HORNSHAW: Could you tell me the  
20 two concentrations again?

21 MEMBER RAO: Yes, the TACO groundwater  
22 objective concentration for 1,  
23 1-Dichloroethane 1.4 milligrams. So my  
24 question is whether the TACO groundwater

1 objective will be revised at a later date?

2 DR. HORNSHAW: I think it will, but I'm  
3 going to have to come back to you on that  
4 just to be sure.

5 MEMBER RAO: I'm moving on to the next  
6 question. On page five you state that the  
7 Toxicity Assessment Unit decided to include  
8 in the proposed rulemaking any chemical from  
9 the Bureau of Land's master list that had a  
10 toxicity value in the IRIS database. Please  
11 explain the rationale for limiting the  
12 chemicals to only those with IRIS toxicity  
13 values instead of considering the USEPA's  
14 three-tier hierarchy.

15 DR. HORNSHAW: I've kind of answered  
16 this already. We were going to use IRIS and  
17 PPRTV because those are EPA supported  
18 toxicity values. It turns out none of the  
19 chemicals that we were proposing values from  
20 the PPRTV database, all of them were IRIS  
21 data that were used in calculating the  
22 values. We decided internally not to use the  
23 third-tier because these are all more or less  
24 provisional values that are probably subject

1 to change and modification so we limit it to  
2 the two tiers. So we had solid toxicity data  
3 for this rulemaking.

4 MEMBER RAO: Since you said that you  
5 didn't use any of the PPRTV, RfD, would you  
6 please clarify Mr. Cobb's testimony on page  
7 12, where he has the table listing, the basis  
8 for all the proposed Class I standards for  
9 1-Dichloroethane that the basis is listed as  
10 PPRTV.

11 DR. HORNSHAW: I may have to take back  
12 all I just said.

13 MEMBER RAO: You may want to take a  
14 look at this. It may be based on the RfD  
15 too. I mean the groundwater objectives for  
16 TACO.

17 DR. HORNSHAW: I'll check the entire  
18 database that we have for 1-dichloroethane  
19 and come back to you in written form or at  
20 the next hearing.

21 MEMBER MELAS: Next hearing.

22 MEMBER RAO: On page 7 of your  
23 testimony you state that additional  
24 corrections are necessary for several

1 reasons, including the revision of the  
2 selection criteria for groundwater standards  
3 for carcinogenic chemicals. You note that  
4 the revised criteria require a comparison of  
5 each carcinogenic constituent's health based  
6 concentration (1 in million risk level) with  
7 its corresponding analytical method detection  
8 limit, the greater of which is compared with  
9 the constituent's reported water solubility.  
10 Could you please clarify whether analytical  
11 detection limit represents the carcinogenic  
12 statutes MDR or method detection limit or its  
13 practical quantification limit.

14 DR. HORNSHAW: I misspoke in my  
15 testimony. It should be lowest practical  
16 quantitation limit, PQLs, which I think is  
17 already testified.

18 MEMBER RAO: That takes care of my next  
19 question because I wanted to know if we  
20 wanted to change the 620 to MDL?

21 DR. HORNSHAW: No.

22 MEMBER RAO: Okay, thank you very much.

23 CHAIRMAN MCGILL: Thank you. For the  
24 record, does anyone else have any further

1 questions for either Agency witness? Seeing  
2 none, why don't we go off the record for a  
3 moment.

4 (Discussion off record.)

5 CHAIRMAN MCGILL: Back on the record.  
6 Just for the record, is there anyone else who  
7 wishes to testify or pose a question today?  
8 Seeing no response, I'll move on to a few  
9 procedural items before we adjourn? Just  
10 hang on for one moment. I want to make sure  
11 nobody signed this sign-up sheet and wandered  
12 off.

13 I'm going to run through the Section  
14 27(b) economic impact study matter on the  
15 record, and if it's applicable it will be  
16 covered. If it turns out that it is not,  
17 then no harm. The Board as I mentioned did  
18 request an economic impact study. Section  
19 27(b) of the Environmental Protection Act  
20 requires the Board to request that the  
21 Department of Commerce and Economic  
22 Opportunity conduct an economic impact study  
23 or ECIS on proposed rules before the Board  
24 adopts the rules. DCEO may within 30 to 45

1 days request to produce a study on the  
2 economic impact of the proposed rules. The  
3 Board must make the economic impact study or  
4 DECEO's explanation for not conducting one  
5 available to the public at least 20 days  
6 before public hearing. On March 26, 2008,  
7 the Board accepts DCEO's request to conduct  
8 an ECIS on the Agency's rulemaking proposal.  
9 DCEO has not responded to the Board's  
10 request. Is there anyone who would like to  
11 testify regarding this matter?

12 Seeing none, I'll mention that we  
13 have a second hearing in this rulemaking  
14 scheduled for July 16, 2008, at 10:00 a.m.  
15 That hearing will be held at the Agency's  
16 building 1000 East Converse in Springfield,  
17 enter through the north entrance of the  
18 building, and it will be in the TQM room.  
19 Pre-filed testimony for the second hearing  
20 must be filed with the clerk of the Board by  
21 July 11th. The mailbox rule does not apply  
22 to this filing. So the clerk must receive  
23 the pre-filed testimony by July 11th. Of  
24 course you can file electronically through

1           our clerk's office on-line or pool. I will  
2           issue a hearing officer order this week which  
3           will mention the pre-filed testimony deadline  
4           for our second hearing and also set forth the  
5           questions proposed by the Board today to  
6           assist the Agency in its preparation of  
7           responses for the second hearing. Copies of  
8           the transcript of today's hearing should be  
9           available on the Board's website by June  
10          30th. If anyone has any questions about the  
11          procedural aspects of this rulemaking, you  
12          can contact me, my phone number is  
13          (312) 814-6983. My e-mail is  
14          mcgillr@ipcb.state.il.us.

15                         Are there any other matters that  
16                         need to be addressed at this time? Seeing  
17                         none, I would like to thank everyone for  
18                         participating today, and this hearing is  
19                         adjourned.

20                                 (Whereupon the hearing was  
21                                 adjourned.)

22         STATE OF ILLINOIS )

23                                 ) SS.

24         COUNTY OF C O O K )

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DENISE ANDRAS, being first duly sworn, on oath says that she is a Certified Shorthand Reporter doing business in the City of Chicago, County of Cook, and State of Illinois.

That she reported in shorthand the proceedings had at the foregoing hearing of the above-entitled cause.

And that the foregoing is a true and correct transcript of her shorthand notes so taken as aforesaid and contains all the proceedings had at the hearing.

\_\_\_\_\_  
DENISE ANDRAS, CSR  
CSR NO. 084-003437

SUBSCRIBED AND SWORN TO  
Before me this \_\_\_\_ day  
Of \_\_\_\_\_, A.D., 2008.

\_\_\_\_\_  
Notary Public