

Hearing to Discuss Proposed Revisions

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STATE OF WYOMING

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HEARING TO DISCUSS PROPOSED REVISIONS TO WATER QUALITY  
RULES AND REGULATIONS CHAPTER 24 AND UPDATE ON CHAPTERS  
8, 9, 13, 16 AND 27 FOR REVIEW BY THE WATER AND WASTE  
ADVISORY BOARD AND UPDATE ON ELECTRONIC PUBLIC COMMENTS  
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TRANSCRIPT OF HEARING PROCEEDINGS

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Transcript of Hearing Proceedings in the above-  
entitled matter before the Water and Waste Advisory  
Board, commencing on the 7th day of May, 2015, at  
9:00 a.m. at the Oil and Gas Conservation Commission  
Building Hearing Room, 2211 King Boulevard, Casper,  
Wyoming, Ms. Marjorie Bedessem presiding, with Board  
Members Mr. Calvin Jones and Mr. Klaus Hanson in  
attendance and Board Member Ms. Lorie Cahn appearing via  
video-conferencing. Also present were Mr. Kevin  
Frederick, Mr. Bill Tillman and Ms. Gina Thompson from  
DEQ and Ms. Laura Ladd from Hewitt Ladd Consulting.

1 P R O C E E D I N G S

2 (Hearing proceedings commenced

3 9:00 a.m., May 7, 2015.)

4 CHAIRMAN BEDESSEM: Good morning,  
5 everyone. We're going to now convene the Water and Waste  
6 Advisory Board meeting. Start off with introducing the  
7 board members who are present today.

8 MR. HANSON: Klaus Hanson, Laramie.

9 CHAIRMAN BEDESSEM: Representing local  
10 governments?

11 MR. HANSON: Representing the municipal  
12 governments.

13 CHAIRMAN BEDESSEM: Marge Bedessem,  
14 representing the public.

15 MR. JONES: And I'm Cal Jones. I'm  
16 representing agriculture.

17 CHAIRMAN BEDESSEM: And Dave Applegate,  
18 our industrial representative, is not here. And then  
19 remotely --

20 MS. CAHN: Lorie Cahn, representing the  
21 public at large.

22 CHAIRMAN BEDESSEM: And first up this  
23 morning we have the Water Quality Division. Like to go  
24 ahead and have Administrator Kevin Frederick start off  
25 and introduce his staff and begin your presentation.

1                   MR. FREDERICK: Thank you, Madam Chairman.  
2 Kevin Frederick, Water Quality Division administrator.  
3 Today we have with us Mr. Bill Tillman of our staff, Gina  
4 Thompson of our staff, and Ms. Laura Ladd with Hewitt  
5 Ladd Consulting. We're here today to present to you some  
6 proposed revisions to our Chapter 24 on Class VI UIC, or  
7 underground injection control wells. These are  
8 essentially wells for carbon sequestration projects.

9                   The purpose of the proposed revisions that  
10 we're bringing forward today deal with essentially the  
11 remaining elements of the regulation that deal with  
12 financial assurance requirements for carbon sequestration  
13 projects. Financial assurance is similar to reclamation  
14 and mitigation bonds, for instance, that the Department  
15 requires for coal mines and things like that. In the  
16 event that there is a corporate default or the company  
17 that is actually doing the carbon sequestration is no  
18 longer in business and reclamation, mitigation work needs  
19 to be completed, financial assurance requirements are  
20 essentially intended to provide the resources that we  
21 could then use to complete those remaining requirements.

22                   A little background. Interestingly enough,  
23 when the Wyoming state legislature began looking at  
24 carbon sequestration back in I believe 2008, if I'm not  
25 mistaken, we were actually a leader in the legislative

1 initiatives nationwide dealing with identification of  
2 pore space rights, for instance, pore space that would be  
3 used for carbon sequestration projects or storage of CO2  
4 underground. And the legislature was pretty active there  
5 for a couple of years trying to set up the scheme that  
6 would provide for the regulatory oversight of carbon  
7 sequestration projects. That was occurring essentially  
8 simultaneously with the USEPA's development of a draft  
9 regulation, a proposed regulation for oversight of carbon  
10 sequestration projects.

11 Madam Chair, as you may recall, Water Quality  
12 Division then essentially used EPA's draft regulation as  
13 a model or a guide in developing our Chapter 24. The  
14 legislature took the initiative to essentially require in  
15 statute the formation of a work group to begin to look at  
16 financial assurance requirements for carbon sequestration  
17 projects in particular. They established the work group  
18 under the auspices of the director of DEQ, John Corra at  
19 the time, the Wyoming Oil and Gas Conservation  
20 supervisor, Don Likwartz at the time, and the state  
21 geologist, who I believe was Ron Surdam at the time.

22 The work group then -- by the way, Ms. Ladd was  
23 at that time a policy analyst in Governor Dave  
24 Freudenthal's office and participated on the working  
25 group on behalf of the governor's office, as well. Other

1 members of the working group included representatives  
2 from the coal mining industry, from the electric  
3 generating power industry. And I think Laura will  
4 probably touch on that a little bit more when she  
5 provides us a little presentation for you all to kind of  
6 understand some background on the development of the  
7 rules and regulations.

8           So, while we were developing our draft rule,  
9 Chapter 24, based upon the federal rule at the time, when  
10 the federal rule was finalized, there were actually some  
11 additional provisions in there associated with financial  
12 assurance requirements under EPA's rule that we then have  
13 to fold into our regulation. And the reason that's  
14 necessary is because, like with other underground  
15 injection control wells that are regulated under federal  
16 rules, the State of Wyoming is interested in obtaining a  
17 delegation or primacy to be able to administer the  
18 permitting and oversight and so forth of these carbon  
19 sequestration wells.

20           And in order to obtain primacy or be delegated  
21 that permitting authority, our regulations essentially  
22 have to very closely mirror the federal regulations. We  
23 have to be at least as stringent as the federal  
24 regulations in order to obtain primacy. Obtaining  
25 primacy is important because then that gives the State of

1 Wyoming the ability to work with permittees and so forth  
2 in implementing the regulations. And there's always  
3 been, I think, and rightfully so, a belief that we do a  
4 pretty good job of that at DEQ because we work pretty  
5 closely with the regulated community. We understand some  
6 of the unique Wyoming conditions that federal regulators  
7 out of Region 8 in Denver perhaps don't understand quite  
8 as well as we do. So that's one of the primary interests  
9 in obtaining primacy.

10 Moving back, then, to what we call the carbon  
11 sequestration working group that the legislature  
12 established, there was a series of meetings that the  
13 working group held over, gosh, probably perhaps as many  
14 as two years. We met I would say roughly quarterly as a  
15 group. And the outcome of that effort was essentially a  
16 report of the working group's efforts, what they looked  
17 at, what they considered, and what they recommended the  
18 legislature continue as setting a path forward for  
19 financial assurance requirements for carbon sequestration  
20 projects. So that essentially went then to the  
21 legislature through the director of DEQ.

22 Consequently, as a result of that, the  
23 following session -- and I can't tell you which year that  
24 was. It was I believe two thousand --

25 MS. LADD: Ten.

1 MR. FREDERICKS: 2010. Thank you, Laura.

2 In 2010 the legislature actually incorporated  
3 several of the recommendations of the working group in  
4 the statute. As a footnote, these recommendations were  
5 incorporated in the statute prior to EPA's finalization  
6 of the financial assurance requirements in their final  
7 rule. So we were essentially then faced with trying to  
8 accomplish two objectives in Chapter 24, not only to  
9 recognize and incorporate the requirements under the  
10 final federal rule, but also to recognize and incorporate  
11 the statutory requirements that resulted from the working  
12 group's recommendations.

13 And that is essentially a culmination of what  
14 we're bringing forth to you today. The proposed  
15 revisions accomplish both of those objectives. We're  
16 incorporating the federal requirements under the federal  
17 rule so we can meet the primacy delegation expectations  
18 when we take this package to EPA. And we hope to do that  
19 perhaps this time next year.

20 And we also then pulled in the statutory  
21 requirements and Wyoming statutes that were developed, as  
22 I said, as a result of the working group's efforts. Some  
23 of the requirements were very similar between the federal  
24 rule and the Wyoming statutes. And I think for the most  
25 part, there was a fair amount of duplication in terms of

1 the expectations. Not only the Wyoming legislature, but  
2 the federal requirements. Federal requirements got into  
3 a little bit more descriptive detail than the Wyoming  
4 statutory requirements did. That's not surprising.  
5 Nevertheless, that was essentially the result of the work  
6 today.

7           During the interim, over the last couple of  
8 years, both Ms. Ladd and myself have participated in two  
9 external working groups. One was essentially established  
10 I would say almost at a national level and was  
11 essentially comprised of energy industry representatives,  
12 power-generating representatives. There were I believe a  
13 couple of attorneys from Washington, D.C. that were very  
14 closely involved in development of the carbon  
15 sequestration regulations and so forth and whose clients  
16 definitely included energy and power industries.

17           The intent of that work group was really to  
18 take a look at how a financial assurance requirement  
19 structure could be developed and what it would look like.  
20 And Ms. Ladd is going to present you all with kind of an  
21 overview of that working group's effort. Ms. Ladd and  
22 myself were the only two state representatives, I  
23 believe, on that working group. And we participated on  
24 behalf of both DEQ and the governor's office in attending  
25 several meetings. The outcome of that effort was a



1 report. And Ms. Ladd will touch on that a little bit.  
2 But the report really helped serve as a substance, a  
3 framework, if you will, for us to start to begin to  
4 analyze and evaluate how do we set financial assurance  
5 expectations in looking at things like probabilities of  
6 events happening and risks associated with carbon  
7 sequestration and so forth? We'll touch on those a  
8 little bit.

9 On the risk analysis side of it, the Wyoming  
10 working group, carbon sequestration working group,  
11 actually did a very similar analysis. Their report was  
12 completed prior to this national work group effort. And  
13 the report's basis and risk assessment, risk  
14 identification and so forth that came out of Wyoming's  
15 working group is actually recognized and considered in  
16 the national work group effort. So there's some  
17 similarities there. We were I think generally quite  
18 pleased with the outcome of that effort.

19 Subsequent to that working group effort, the  
20 IOGCC, which is the national association of state oil and  
21 gas conservation commissions, essentially is what it is,  
22 also had an interest in exploring financial assurance  
23 requirements for carbon sequestration projects and  
24 established a work group and was primarily led by a  
25 representative of IOGCC who led the group. North Dakota

1 was represented because North Dakota is very interested  
2 in carbon sequestration projects primarily associated  
3 with enhanced oil recovery.

4 And I think most of us believe that in the  
5 short-term future, at least, the majority of the carbon,  
6 CO2 that's going to be injected is probably going to be  
7 used for enhanced oil recovery purposes, similar to what  
8 we see at Salt Creek. So Laura and I were invited to  
9 participate in that work group.

10 Was Kip Coddington part of that work group?

11 MS. LADD: He was.

12 MR. FREDERICK: Mr. Coddington was just  
13 recently named the director of -- just recently joined  
14 the University of Wyoming's School of Energy Resources in  
15 some executive capacity. I can't tell you for sure. But  
16 that was announced just last week. Mr. Coddington was on  
17 this work with us on the IOGCC side of things.

18 So, at the end of the day, that didn't seem to  
19 be quite as an analytical look at financial assurance  
20 requirements in that work group as much as had been  
21 undertaken in the national level working group, or  
22 perhaps even for that matter, in the Wyoming carbon  
23 sequestration working group. But we did gain some  
24 insight in working on the IOGCC work group, as well. The  
25 outcome of that was essentially guidance of

1 considerations for states that are interested in  
2 developing carbon sequestration financial assurance  
3 requirements, much more broad and general, I think, than  
4 the outcomes of either the national work group or the  
5 Wyoming carbon sequestration working group.

6           By the way, I mentioned North Dakota. North  
7 Dakota is the first state that has submitted its  
8 application to EPA to obtain primacy or delegation for  
9 Class VI UIC wells. They submitted their application  
10 several months ago. I understand it's still sitting on  
11 the administrator's desk, waiting for her final  
12 signature. And I think it's fairly safe to say that  
13 North Dakota is a little bit frustrated that it's taking  
14 so long. I suspect that Wyoming will probably be the  
15 second state to submit its application. Other states  
16 that are interested in considering this are Texas,  
17 Oklahoma and Kansas. To my knowledge, there may be more.  
18 There may be others. I'm not sure.

19           But nevertheless, that's kind of the background  
20 on what DEQ has done in concert with others in trying to  
21 craft financial assurance requirements that have, we  
22 think, some reasonable basis. And in some cases, we  
23 simply don't have much choice but to pull in the federal  
24 requirements in order to meet the stringency  
25 expectations. So we're kind of stuck with some of that.

1 But that's how we got here today.

2           And just for your information, EPA has worked  
3 with us to essentially develop what's called a crosswalk,  
4 federal regulation, state regulation crosswalk. And what  
5 it does, it goes through the federal rule line by line  
6 and the state rule line by line, and EPA essentially has  
7 done a preliminary analysis and said, okay, Wyoming, in  
8 looking at the stringency requirements, it looks like A,  
9 B and C here line up real well with A, B and C in the  
10 federal rule. But E, F and G need a little tweaking.  
11 You need to fix some things, because we just don't think  
12 you're as equivalent as our regulation is.

13           So that crosswalk has been essentially  
14 completed for us. We're looking at that now. And I  
15 think our expectation is once we resolve financial  
16 assurance regulatory requirements through the advisory  
17 board, we'll be coming back and making these final, final  
18 adjustments as recommended by EPA for the crosswalk  
19 stringency evaluation. I hope these are going to be  
20 fairly minor. I don't expect to see a lot of major  
21 changes. But we want to kind of keep that as a separate  
22 effort before the board so we don't get things any more  
23 confusing or complicated than they already are.

24           CHAIRMAN BEDESSEM: So my question is, are  
25 you going to then have two separate packages to the EQC

1 or one package to the EQC?

2 MR. FREDERICK: To the EQC?

3 CHAIRMAN BEDESSEM: Uh-huh. When it moves  
4 forward.

5 MS. CAHN: Excuse me. Kevin, can you  
6 repeat Marge's question? I couldn't hear Marge.

7 MR. FREDERICK: The question was whether  
8 or not we anticipate taking two packages before the  
9 Environmental Quality Council, similar to what we're  
10 proposing here to the advisory board, or just one. Did  
11 you catch that, Lorie?

12 MS. CAHN: Yes, I did. Thank you, Kevin.

13 MR. FREDERICK: I think, to an extent,  
14 it's dependent upon how quickly we can move financial  
15 assurance requirements through the advisory board. We  
16 have not recommended to the advisory board at this time  
17 of making a final decision today on moving the regulation  
18 before the EQC, although that's certainly the board's  
19 pleasure. We think we'll be prepared to -- we hope we'll  
20 be prepared to bring the crosswalk changes before the  
21 board at its next meeting.

22 And ideally, it would be my hope that at the  
23 next meeting, the board would essentially approve moving  
24 both financial assurance requirements, as well as the  
25 crosswalk modifications that we'll present at the next

1 meeting, to the EQC. So I think that's my plan. Then we  
2 would take one package to the EQC.

3 CHAIRMAN BEDESSEM: Makes sense to me.

4 MR. FREDERICK: Good. Thank you.

5 CHAIRMAN BEDESSEM: Less confusing.

6 MR. FREDERICK: So, Madam Chairman, I  
7 would like to provide an opportunity for Ms. Ladd to  
8 provide you with a little bit more background and detail  
9 on what I've tried to lay out here, and following that,  
10 an opportunity for questions and answers. Mr. Tillman  
11 here will take us a little bit more closely through the  
12 proposed revisions to the regulation, and we'll go from  
13 there.

14 CHAIRMAN BEDESSEM: Sounds good.

15 MR. FREDERICK: Thank you.

16 MS. LADD: Good morning, Madam Chair,  
17 members of the advisory board. Thank you for the  
18 opportunity to present to you today. It's a privilege to  
19 be here. And thank you, Director Frederick, for inviting  
20 me. Can you hear me okay?

21 CHAIRMAN BEDESSEM: Uh-huh.

22 MS. LADD: So I'd like to walk you through  
23 a series of slides that just provide a little bit of  
24 additional background and some of the detail particularly  
25 around the modeling language that's in the rule. And

1 Director Frederick certainly did a nice job of already  
2 addressing some of those issues, so I will probably be  
3 brief so as to try not to be redundant. But certainly  
4 feel free to interrupt me at any point in time if you  
5 have questions.

6 So, as Director Frederick mentioned, there  
7 really have been three components of --

8 MS. CAHN: Does the slide change? Because  
9 it's not changing on mine.

10 MS. LADD: Okay. Hi, Lorie. It did  
11 change on our screen. So our technology whiz, Gina, is  
12 trying to set it up.

13 MS. CAHN: Okay. Now it's online.

14 MS. LADD: I'll just go manually. No  
15 problem.

16 So there are three components to the background  
17 and efforts of the State that inform this rule. We've  
18 talked a little bit about some of the State of Wyoming's  
19 legislative efforts and the formation of this carbon  
20 sequestration working group. I'll go into that in a  
21 little bit more detail. Might be worth just pointing out  
22 that the findings of that working group and the statute  
23 that followed is what created the mandate for DEQ to  
24 create this rule and create the revisions to this rule  
25 that are proposed today.

1           And then as noted, we participated in these two  
2 additional studies. And I would maybe just add a couple  
3 of points around what we were hoping to seek,  
4 particularly in participation in the national study  
5 director Frederick mentioned, which was led by a group  
6 called Industrial Economics out of Boston. And  
7 Industrial Economics is really an expert in damages  
8 estimates and economic modeling, not infrequently  
9 testifying at congressional hearings on these types of  
10 issues.

11           And so, at the time that we had completed the  
12 working group, we still really had some difficulty  
13 thinking about how you were going to have a robust cost-  
14 estimation effort. You know, we could identify what  
15 types of financial assurance made sense for which pieces  
16 of a project, but the actual valuation work was something  
17 we wanted to better understand. So that was a variable  
18 in our decision to participate in that effort.

19           And then the IOGCC report, an effort that  
20 Director Frederick mentioned, certainly came later, which  
21 in some ways is also interesting, because there was -- it  
22 was shortly after EPA had released the Class VI rule. So  
23 there was I would say a little bit more of a political  
24 component to that effort, where folks were digesting that  
25 rule and trying to think about what that meant for them



1 and what they wanted to recommend as a result.

2           Nonetheless, we wanted to do our best efforts  
3 particularly around trying to put a financial assurance  
4 regime in place that addressed the latter stages of a  
5 project, particularly after the operations had ceased,  
6 and trying to understand what the costs and estimates  
7 needed to look like in the post closure and long-term  
8 liability phases of the project.

9           So, moving on to the next slide. And I won't  
10 read this. I want to just point out a few things. The  
11 effort started in 2007, I believe, really. And at that  
12 time I was working for Governor Freudenthal. I would  
13 paraphrase his interests as wanting to make sure that if  
14 and when the marketplace decided that geologic carbon  
15 sequestration or permanent sequestration became a viable  
16 solution that Wyoming was ready to serve, essentially,  
17 and that we had the foundation and framework in place to  
18 be able to do that in an effective way. And so this  
19 issue around liability and assumption of liability and  
20 estimation of liability was something -- was one of those  
21 building blocks that we wanted to work on.

22           And so behind that there were several bills  
23 that were completed in 2008 and 2009. And the bill in  
24 2008 referenced, as Director Frederick did, the creation  
25 of this working group, the various three-party leadership

1 system, though I believe Director Corra largely led that  
2 effort, and then the focus on making sure we had all  
3 constituent groups in Wyoming represented in that effort,  
4 for a variety of reasons, but largely because they  
5 brought great expertise and varying perspectives to the  
6 issues at hand.

7           And so that mandate was to -- as you can see in  
8 that second bullet, was to make sure that we had adequate  
9 financial resources provided to pay for mitigation and  
10 reclamation costs that the state might incur in the event  
11 of a default by a permit holder and that that should be  
12 required through the post-closure care period of a  
13 project, and the group was asked to recommend the  
14 duration of what a post-closure care period should be.  
15 So that was, by statute, what the working group was  
16 requested to do.

17           And I've just highlighted the bottom of this  
18 line, a handful of other laws that were passed that I  
19 think Kevin's already touched on.

20           So, moving on to the next line, I'll just go  
21 through. There are about three slides here that  
22 summarize some of the efforts of the working group. And  
23 they may be particularly relevant, one, because they were  
24 the framework by which the statute in 2010 was passed,  
25 but also you'll see in the Chapter 24 rule that Bill will

1 speak about today, and the Appendix A of that rule lifts  
2 directly from the study that that working group published  
3 in 2009. So it has lived beyond that date.

4 So the first thing that we did was spend some  
5 time identifying what the phases of a project were and  
6 then the likely risks inherent to each of those phases,  
7 and then commensurate with that, what would be acceptable  
8 financial assurance tools in each of those phases based  
9 on those types of risks and based on the role of an  
10 operator?

11 So the one that I highlight here in particular  
12 is where something like self-insurance might make sense  
13 if you meet the financial tests demonstrating your  
14 capability to pay, that makes sense in an operating  
15 period of a project. It probably makes less sense in a  
16 post-closure period of a project, when the operator may  
17 or may not still be actively involved in any way.

18 So those are the kinds of issues that we  
19 explored. And you'll hear some further discussion also  
20 around these, what we call this long-term stewardship  
21 period which followed the post-closure period and is  
22 essentially after you have received a certificate of site  
23 closure, what we viewed to be probably a very nominal  
24 amount of risk that continued but not a nonexistent risk.  
25 So there was a separate period that, as you see, is

1 indefinite in duration but hopefully very nominal in  
2 exposure.

3           So, moving on to the next slide, this graph, I  
4 wanted to just include this to show -- give you a sense  
5 for the risk profile that corresponds with the different  
6 phases of the project. This is a piece that Sally Benson  
7 from Stanford University put together and is pretty  
8 widely referenced and accepted as a resource in this  
9 field.

10           And the two things to point out are certainly  
11 the ramp-up period around when most of the risk exposure  
12 exists, which is during operations and following the  
13 cessation of injection, and what I also just referenced,  
14 which is though a project may conclude, you'll see that  
15 the risk never goes completely to zero. So that chart  
16 was created I think to highlight those two things in  
17 particular.

18           And then the working group went through the  
19 effort of specifying what are the major risks that might  
20 present in a carbon sequestration project? And we really  
21 had some very, very good expertise and guidance in this  
22 effort from our industry representatives who are on the  
23 working group and concluded -- we've categorized them in  
24 four areas here, though they are further broken down in  
25 the appendix, I believe. But you've got contamination of

1 underground water resources, trespass issues, large  
2 atmospheric release and potential property damage. Those  
3 were the major buckets that the working group identified.  
4 And those, again, as I mentioned, show up in Appendix A  
5 of the proposed rule.

6           And then the last slide, I want to just  
7 highlight this issue around the post-closure care period  
8 and an added recommendation that the working group made.  
9 So the post-closure care period and, importantly, I think  
10 the criteria for closure was a widely discussed item.  
11 And I think we relied pretty heavily on our state  
12 geologist at that time to talk with -- to help -- as well  
13 as Mark Northam from the School of Energy Resources -- to  
14 help inform what are the types of criteria that would --  
15 that you would need to see the evidence of site  
16 stabilization so that the plume had ceased migration of  
17 any sort.

18           And so we got comfortable that there needed to  
19 be a minimum period of time. In fact, it's not all that  
20 long a period of time. But in addition to that, within  
21 that period of time or whatever period of time, we needed  
22 to have three consecutive years of plume stabilization  
23 monitoring data to present to DEQ. And so that became  
24 the criteria and the recommended language for the post-  
25 closure period.

1           And then we discussed in some detail also who's  
2 going to pay for ongoing monitoring, measurement,  
3 verification of a project both during this post-closure  
4 care period and following the post-closure care period?  
5 And so the working group recommended the creation of a  
6 special revenue account that would be funded either  
7 through a per-ton injection fee or a fixed fee. That was  
8 not decided by the group. I think there was a preference  
9 that the funding mechanism be collected during the  
10 operating period of a project, or certainly prior to site  
11 closure, but that it be a privately funded and then  
12 publicly controlled fund. And so that too became  
13 language which was incorporated into our statutory  
14 recommendations.

15           So let me just pause, because I'm going to --  
16 I'll just walk through a few things on the statute and  
17 ask if there are any questions on that. That was the  
18 main body of the work with the working group.

19                       MR. HANSON: We can ask general questions  
20 later. Right?

21                       CHAIRMAN BEDESSEM: Uh-huh.

22                       MS. LADD: You're welcome to interrupt me  
23 at any time, Madam Chair.

24                       MR. HANSON: Madam Chair, I don't have a  
25 specific question to this. Maybe to one aspect of this.

1 And I'm reading off the document where you highlight the  
2 new sections. And at the beginning -- you know, I'm  
3 coming from the municipalities, and we are dealing with  
4 an aquifer locally, et cetera. And the only thing that  
5 occurs to me is that there is a little bit of a fox  
6 guarding the henhouse aspect here, namely the injector --  
7 injection company monitors things. And we've had this  
8 problem, of course, locally that we wanted a licensed  
9 geologist -- that goes into Madam Chairman's field  
10 here -- checking these things.

11 And that I don't -- I'm talking now from the  
12 level of municipalities and water supplies, which is  
13 expressed on the second page of the new regulations. To  
14 guarantee these things, I'd like to suggest that there be  
15 an outside licensed geologist evaluation, observation of  
16 this matter. Because otherwise, it's sort of the coal  
17 industry monitoring the coal industry or the injection  
18 industry monitoring the injection industry. And that's  
19 the aspect from a local perspective, because we've had  
20 this problem locally. That I'd like to see addressed.

21 Thank you, Madam Chair.

22 MS. LADD: Thank you, Madam Chair and  
23 Mr. Hanson. I appreciate the comment. And I don't know  
24 there's a direct question for me at this point, but my  
25 guess is that Mr. Tillman --

1 MR. HANSON: That's why I didn't know  
2 whether to address it now or later. I didn't know where  
3 it would fit.

4 CHAIRMAN BEDESSEM: We can get to it  
5 later.

6 MS. LADD: Madam Chair, if it's your  
7 pleasure --

8 CHAIRMAN BEDESSEM: Yes.

9 MS. LADD: -- we'll come back to that  
10 question.

11 MR. HANSON: I'm sorry. It probably was  
12 too early.

13 CHAIRMAN BEDESSEM: I think it's fine.  
14 This way he can mull it over.

15 MR. HANSON: All right. Mull it over now.

16 MS. LADD: So, highlighting the statutory  
17 requirements -- and Director Frederick did a very nice  
18 job of describing what I would call the ingredients that  
19 went into this rule. And you've got the ingredients by  
20 EPA that probably make up a large amount of the changes  
21 to this document. But the statute that was passed in  
22 2010 is another ingredient that is incorporated here.  
23 And so you'll see that we address this issue of creation  
24 of the special revenue account. These were -- just for  
25 background, I was trying to remember the timing myself,



1 when Director Frederick was speaking. I believe we  
2 presented to the Joint Judiciary Committee in 2009, the  
3 fall of 2009. And in large part, the draft statute that  
4 was recommended by the working group was accepted  
5 unchanged and put forward by various legislators in that  
6 following session.

7           So we included in that recommended statute this  
8 special revenue account language, as well as -- and I'll  
9 just highlight these components to 35-11-313 which you  
10 will see also in this -- in the rule today. Certificate  
11 of insurance for personal injury and property damage, the  
12 authority to develop procedures for the type and amount  
13 of bonds to assure operator complies with rules and  
14 requirements and has adequate financial resources to pay  
15 for mitigation and reclamation in event of default,  
16 various reporting requirements, and as well as language  
17 that allows for adjustment of bonds or other financial  
18 assurance instruments, proof of compliance, replacement,  
19 substitution, forfeiture and release procedures.

20           And then you see that same language around not  
21 sooner than ten years and three years of site  
22 stabilization pertaining to post closure. And then I  
23 believe there's language requiring essentially  
24 communication with adjacent landowners that might be  
25 affected by a project. That is the affidavit language

1 noted here in this slide. And then repealing a portion  
2 of -- essentially repealing a portion of the prior  
3 statute.

4 So that summarizes the work of the working  
5 group. And I think we felt like we made pretty good  
6 headway, but we still had some questions. If you think  
7 about those requirements, for those of us that do math  
8 for a living, you're still sort of stuck saying, well,  
9 how do I go about trying to figure out how much money to  
10 require folks to put in? Or to Mr. Hanson's comment, if  
11 that recommendation is coming from a company, how do I  
12 know I should rely upon it, and how do I make sure  
13 there's a robust approach to -- and a fair one, but  
14 essentially a defensible process in place?

15 And so that's what some of these additional  
16 studies intended to do and I think did help us in that  
17 effort. I think I'd be wrong in saying that -- if I were  
18 to say that we've answered every question we ever had on  
19 the topic of how much money and exactly how much an  
20 operator needs to put in a special revenue account. But  
21 I think we have good information, particularly as a  
22 result of that valuation study, which is available.

23 I'm going to highlight a couple points in the  
24 project site that they did a study on. But if anybody  
25 would like to see the valuation study itself, it is quite

1 comprehensive. It's probably 120 pages or so. It's very  
2 helpful on financial assurance if anybody's interested.

3 MR. FREDERICK: That, by the way,  
4 valuation study was the outcome of that national working  
5 group, the IEC. IEC is Industrial Economics.

6 CHAIRMAN BEDESSEM: Is that available on  
7 the Web?

8 MR. FREDERICK: It is. I Googled it just  
9 yesterday, I believe.

10 MS. LADD: And Director Frederick did a  
11 nice job of describing the participants. I wanted to  
12 highlight a couple of others, particularly in that  
13 national effort, because it really actually was an  
14 international effort. There were representatives from  
15 Canada -- essentially, Australia and Canada, as you might  
16 guess, have a vested interest in these issues, as well.  
17 And so I think, in fact, the primary funder of that work  
18 effort was an organization called the Global CCS  
19 Institute based out of Australia. And so they, together  
20 with -- I want to say it was a policy group out of  
21 Toronto in particular that was involved in that project.  
22 And then in the IOGCC report -- or, work effort, I wanted  
23 to mention that I believe the Province of Alberta was  
24 also a contributing member. So we've had a great  
25 international flavor to some of this work, as well.

1           So, moving on, I wanted to -- so we've gone  
2 through the statute.

3           Sorry, Ms. Cahn. I realize I probably didn't  
4 keep up with my slides as I was speaking.

5           So the next -- the next slide is just a brief  
6 summary of EPA requirements in the Class VI rule. And I  
7 think the main thing I wanted to highlight here, which  
8 Director Frederick's already done, is if you seek  
9 primacy, which Wyoming understandably would like to do,  
10 there's not a lot of flexibility in adopting the Class VI  
11 permit rules as written. And certainly there's nothing  
12 that limits us from being more restrictive. And I've  
13 highlighted, for example, our language on the post-  
14 closure care period is more restrictive than EPA's  
15 language.

16           And then there's also a very useful guidance  
17 document that EPA put out that talked in great detail  
18 about different acceptable financial assurance  
19 mechanisms, when they can be used, how they can get  
20 reduced, how you can adjust them over time. And that's a  
21 very useful tool.

22           And the last point I want to just highlight is  
23 this issue of there is not specificity in the EPA  
24 document or in our proposed rule about liability which  
25 might still exist after the site has been closed. And I

1 think maybe I'd just comment that there's a lot of  
2 discussion in that IOGCC effort around whether or not all  
3 of the liability had been eliminated. And that remains a  
4 matter of discussion, I think. There's just no history  
5 to answer that question definitively. But from my  
6 standpoint, I think it's still an issue.

7           So the key takeaways from all of this work  
8 effort, which spanned more or less about four or five  
9 years, is, as I just mentioned, there are a limited  
10 number of geologic sequestration projects that even  
11 exist. So we would expect that the financial assurance  
12 approach process and the rules likely would need to  
13 evolve over time and with more experience. And I would  
14 certainly recommend that Wyoming continue to stay attuned  
15 to those efforts elsewhere, because it's entirely  
16 possible it will take place outside of our state  
17 boundaries. Our desire to seek primacy, we've talked  
18 about, and then a timeline for that, and the need to have  
19 a very clear set of guidelines for transitioning from an  
20 EOR operation to a permanent sequestration operation, so  
21 the Class II, Class VI permit issues.

22           One of the things in this next, really, three  
23 bullets were findings both in the working group efforts,  
24 as well as the valuation study that IEC did. You can't  
25 say enough about the value of good site selection. And

1 to that end also, what we found in this sample project  
2 was the purity of the CO2 stream. There's a lot of H2S  
3 in the CO2 stream. A potential for liabilities is  
4 increased significantly.

5 A second thing which you'll see incorporated  
6 into the rule and I'll speak a little more about is the  
7 importance of a robust modeling effort. And in our case  
8 we're recommending a Monte Carlo type of analysis or a  
9 probability-driven model as the proposed best effort.  
10 And then what we saw with this sample project was that  
11 post-injection site care. So, once the operation has  
12 ceased at a well-sited project, shouldn't cost more than  
13 about a dollar a ton for a 50-million-ton-per-annum  
14 project. So it gave us a good barometer for where you  
15 might start. If you had a project come forward and you  
16 wanted to set a recommended dollar amount, that would be  
17 a reasonable place to start.

18 And then the last thing I'll highlight, the  
19 working group report, which is also a pretty lengthy  
20 document, does spend some time talking about the  
21 potential creation of a trust fund that might look like  
22 privately funded but publicly controlled funds where --  
23 where you are addressing the need to potentially cover  
24 catastrophic risk in a very long-term period of time.  
25 That issue was not taken up by the legislature and has

1 not been codified in any way.

2           So I wanted to spend just a couple minutes -- I  
3 can spend as much time or as little time on this topic as  
4 you'd like. But since the statute incorporates this  
5 language -- or, excuse me -- the rule incorporates  
6 proposed language, I'm using probability-driven modeling.  
7 I wanted to do a little bit of a refresher on what that  
8 is and why you do it. And I apologize. I'm sure you  
9 are -- you all are -- have probably scientific  
10 backgrounds and have looked at more probability  
11 distribution curves than I do or have. But I thought it  
12 might be useful to take five minutes to do that and then  
13 to share with you the sample results that came out of  
14 this one study that we did.

15           So the first thing to note is we've talked  
16 about the need to use something other than a -- a sort of  
17 simple tool. We'd like to recommend some type of a Monte  
18 Carlo probability modeling, that those cost curves should  
19 look at risk probabilities, potential outcomes and  
20 damages estimates in the creation of that model, which  
21 will generate a series of expected losses under a variety  
22 of events. And then that probability distribution, we  
23 have asked folks to estimate damages at 50th percentile,  
24 95th percentile and 99th percentile. We have not said  
25 that you must set your financial assurance limit to be at

1 the 99th percentile, but I would certainly professionally  
2 recommend you not set it below 95th percentile. So,  
3 either way, what we wanted to do was show -- we'd like to  
4 see the data for what the distribution curve looks like  
5 at all three of those confidence intervals.

6 So a couple of -- again, I wanted you to have  
7 this information. I don't need to read through it all.  
8 But why do you use something like probability modeling?  
9 Typically because you've got a fair amount of uncertainty  
10 in projecting the future. And the best you can do is  
11 estimate the expected value.

12 And so inherent to that, you end up with a  
13 creation of a range of values, as opposed to a singular  
14 estimate. And by using a range of values instead of a  
15 single, you essentially can create a more realistic  
16 picture of what might occur in the future. This is  
17 somewhat different from a single forecasting model that  
18 you might develop, but it is certainly an industry-  
19 accepted, preferred way of estimating risk and cost  
20 estimates.

21 So the very simple example I've highlighted in  
22 the middle of the page, in a construction project, you  
23 might estimate the time it will take to complete a  
24 particular job based on some knowledge and the time it  
25 might take. And in the worst possible case, you might



1 look at minimum time -- or, the maximum time and then the  
2 minimum time. This would in a -- what you get by taking  
3 not just a singular point in time, is you end up with a  
4 range of values based on any number of those kinds of  
5 scenarios which could occur.

6 And on the next page, you see a -- what you end  
7 up with in a distribution curve is how likely the  
8 resulting outcomes are. And a typical analysis will  
9 model hundreds or thousands of scenarios. In this IEC  
10 effort we did, it was 100,000 runs of a set of inputs to  
11 that model. So it's just a much more robust potential  
12 set of outcomes that you might be trying to cover.

13 So, with that background, let me just show you  
14 the one sample project that we did and go through that,  
15 which was the -- the project that was selected was a  
16 rejected FutureGen site in Jewett, Texas. And the reason  
17 they selected that project was because, in fact, there  
18 was a fair amount of probability information that was  
19 submitted as just part of the FutureGen application. So  
20 there was a decent amount of data that you could use as a  
21 starting point.

22 Then we spent time identifying and discussing  
23 what are the relevant risk events? Not dissimilar from  
24 what the carbon sequestration working group did in  
25 identifying risk elements that are a part of Appendix A

1 now. Then we spent time talking about the magnitude of  
2 those events and the probability of those events. And so  
3 there were a couple of core issues that came up in that.  
4 For example, proximity to a population center had a very  
5 large bearing on potential risk outcomes and damages  
6 estimates, so health effects of the potential atmospheric  
7 release of some magnitude, for example.

8           And so we gathered that information. And then  
9 we looked at the potential costs of those impacts. So  
10 they had I believe damages estimates on health care costs  
11 under a variety of health scenarios. There's just a lot  
12 of actuarial data that is available to create a cost  
13 curve around damages related to human health. So those  
14 were used. And they ran a 100,000-model scenario.

15           Now, look, I'm sensitive to -- I do think most  
16 companies, if they're proposing a project of this  
17 magnitude, do have this capability in-house. But if not,  
18 you can still create -- you can follow the components of  
19 this recommended process even through a simple Excel  
20 model. I mean, you can do this yourself. So there's no  
21 reason -- it sounds a little complicated, but I think  
22 it's important, and it's pretty manageable.

23           And then we end up with this distribution  
24 curve. And as you'll see in this particular project --  
25 and this is what I wanted to highlight in the chart -- is

1 the potential costs vary pretty significantly between the  
2 50th percentile and the 95th percentile, and then they  
3 vary a reasonable amount further in the 99th percentile.  
4 And what we're saying is there is a -- take the 95th  
5 percentile. We're saying there is a five percent  
6 likelihood that total damages would be higher than that  
7 dollar amount. That's the conclusion. And so, if I'm a  
8 state regulator, I'm thinking about what is the dollar  
9 amount of financial assurance I'm going to ask to be  
10 covered to cover for these potential risks and to protect  
11 the constituents in the state of Wyoming and not impede  
12 business in a way that you wouldn't want to, either? But  
13 what's realistic to ask the folks?

14           So, in most cases, a 95 percent, which is sort  
15 of a confidence interval, two-time confidence interval,  
16 would be an accepted approach. But that's up to people  
17 smarter than me to decide, ultimately.

18           So I wanted to show this example. We really I  
19 think were pleased to have gone through this exercise.  
20 And that report is -- I think it's quite good and pretty  
21 illuminating. So I'd encourage you to look at that if  
22 you'd like to learn more.

23           And then I'd just sort of conclude these  
24 remarks by talking about what's next. Director Frederick  
25 talked about seeking primacy and the timing around that

1 and essentially just asking that folks provide a  
2 financial assurance calculation that follows these  
3 recommended -- this recommended approach as much as  
4 anything. And then I think that's -- I wanted to just  
5 summarize sort of our efforts to date. And I'm here as  
6 someone who can answer probably more questions on  
7 economic issues if there are any questions about that.

8 So thank you for the opportunity. And I'll  
9 turn it over to my colleague.

10 Bill, would you like to switch seats?

11 MR. TILLMAN: Thank you, Laura, for giving  
12 that background history on proposed changes to the  
13 regulation. And as Administrator Frederick has stated  
14 before, the majority of these changes that we're  
15 proposing with this chapter are to address financial  
16 assurance or financial responsibility, and they come from  
17 the Code of Federal Regulations 40 CFR 146.85. And so  
18 that is going to be the bulk of those changes. There are  
19 also some statutory changes that were added that maybe  
20 weren't addressed in the Code of Federal Regulations but  
21 were necessary, being from the working group, and  
22 therefore made into statute that we also wanted to  
23 address.

24 I'm looking at -- the version I'm looking at  
25 would be the strike-and-underline version. And to start,

1 just kind of walk through these. And I'm not going to  
2 read each and every condition. I'll try to highlight or  
3 at least let you know where the condition came from.  
4 Because, again, almost all of these come from federal  
5 regulations, so I can cite the statute and verse as to  
6 where it originated. And a lot of the language is  
7 basically straight out of the Code of Federal  
8 Regulations. So, if it's confusing, it's because the  
9 national regulations are confusing. But we tried to add  
10 some clarity where we could so that, again, we could  
11 understand what we're asking the regulated community to  
12 give us.

13 Starting on page 24-1 in Section 1, we added  
14 some language basically to address why the changes were  
15 made. And namely, these are rules and regulations to  
16 provide the financial assurance as codified in our state  
17 statute 35-11-13 -- or, 313.

18 Moving on to page 24-3, one of the things that  
19 the legislature asked us to define, and that was plume  
20 stabilization, because that's going to be a key component  
21 to releasing people from this financial assurance  
22 responsibility. And we took a stab at this definition.  
23 And again, on 24-3 we define plume stabilization as a  
24 carbon dioxide that has been injected subsurface that  
25 essentially no longer expands vertically or horizontally

1 and poses no threat to underground sources of drinking  
2 water, human health, safety or the environment.

3 And again, we said essentially doesn't move,  
4 because, again, there may be minimal movement that, from  
5 a geologist's standpoint or just from our administrator's  
6 standpoint, he can take that data and decide whether or  
7 not we have achieved plume stabilization, and that is a  
8 key component to release from financial assurance.

9 Moving on to page 24-5 in Section 3 on  
10 applicability, Section (b)(i). And basically this  
11 addresses a condition from CFR 146.81(c) and basically  
12 requires permits for Class I and Class V injection wells  
13 that would likely become carbon sequestration wells, the  
14 procedure that they must go through and information they  
15 must submit showing that the wells were engineered and  
16 constructed in compliance with what we would require for  
17 a Class VI carbon sequestration well.

18 In Part (c)(i), this comes from Code of Federal  
19 Regulations 144.19(b)(1) through (8). And these are  
20 basically things to consider when addressing the  
21 permitting of a Class VI well or people -- excuse me.  
22 Yes, consideration for a Class VI permit. And they go  
23 (a) through (i). And Part (c)(ii) comes from 144.19(a).  
24 And basically it says anyone that's a Class II well,  
25 wanting to become a Class VI well, needs to get a Class

1 VI permit when there's a threat to the underground  
2 sources of drinking water. Again, that comes from the  
3 Code of Federal Regulations.

4 Part (iii) is just a clarifying alternative  
5 operation for a Class II well. Because, again, if it's a  
6 Class II operation that doesn't threaten underground  
7 drinking water, we're allowing them to continue as a  
8 Class II operation. And later on, if they would like to  
9 become a Class VI well, that is their option.

10 Moving on to 24-17, at the bottom of the page,  
11 Part (c), this comes from state statute, which, again,  
12 requires public liability. And this public liability is  
13 in addition to the financial assurance. It's a separate  
14 insurance policy, again, as Ms. Ladd had referenced.  
15 This covers the event of personal injury or property  
16 damage that may be, I guess, collateral damage from a  
17 carbon sequestration project. And this comes, again,  
18 from state statute, which says we must have public  
19 liability insurance.

20 This language was borrowed from the Land  
21 Quality Division because, again, from the Land Quality  
22 coal operations, they have a similar public liability  
23 insurance policy. And I basically lifted that same  
24 similar language and incorporated it here in our chapter.

25 Part (iii), where we discuss actual dollar

1 amounts, I looked at what the coal industry, what they  
2 have in their chapter, and just moved it up. This is not  
3 an absolute. It was kind of a best guess at what we  
4 thought that dollar amount should be. Again, we haven't  
5 had any comment from industry. So, again, without any  
6 history, we're not really sure if that's more than  
7 enough, not enough. It's at least a start at, again,  
8 obtaining some public liability insurance, again,  
9 required by statute.

10 And again, on Part (d), it addresses the self-  
11 insurance. And again, if they're a large enough company  
12 where they can't self-insure, that again has to be  
13 demonstrated to the administrator and his satisfaction  
14 whether or not that would be an acceptable form of public  
15 liability.

16 Moving on to page 24-24, Section 10. This was  
17 added. This was not in the original chapter. And it's  
18 the injection depth waiver that was, again, later  
19 codified by the CFR, Code of Federal Regulations, that  
20 needed to be incorporated. And this is basically  
21 verbatim, CFR 146.95, front to back, basically federal  
22 language that if you would like an exception or to go  
23 past that depth waiver, all the requirements that you  
24 must comply with. And again, this is federal language.  
25 Nothing added. Nothing taken away from it.



1           And, Board Chairman, Mr. Hanson, again, your  
2   comment as far as that alternative view to monitoring of  
3   the injection site, most of the changes are federal  
4   language. Again, they're not -- they don't address that.  
5   But again, that's something we can consider and  
6   definitely take that comment into consideration and maybe  
7   have additional information -- or, excuse me -- an  
8   additional requirement to this chapter. We'll definitely  
9   consider your comment there.

10           Madam Chair?

11                   CHAIRMAN BEDESSEM: Well, all the  
12   monitoring is submitted to the agency for your review.

13                   MR. TILLMAN: Correct.

14                   MS. CAHN: Bill, can you please repeat  
15   Marge's question or comment?

16                   MR. TILLMAN: Marge said that basically  
17   all the information is submitted to the Division or to  
18   the Department for our review for approval. So this  
19   requirement for an outside party may be redundant. But  
20   again, it's something to consider.

21                   Moving on to page 24-36, roughly middle of the  
22   page, (iv), this edition comes from State Statute  
23   35-11-313(f)(ii)(M). And basically it's a notice to  
24   surface owners, mineral claimants, of closure of the site  
25   and just basically notification requirement through state

1 statute.

2 Part B is from 35-11-313(b)(i)(f). And it  
3 basically says that when you get this notice that it's  
4 site closure, that it's also a mechanism for requiring a  
5 public meeting if you would like or a public hearing if  
6 the owners of those entities would request one. And it  
7 was also a part of the statute that we give that  
8 opportunity.

9 The bulk of the changes, again, are in Section  
10 19 on page 24-38. And it comes from CFR 146.85. And it  
11 outlines all the financial responsibilities. What I've  
12 also nested in there is from the working group that  
13 Ms. Ladd referred to. In Part (b), this was from the  
14 working group, and this is where we actually give them  
15 the basis to form their -- the how of how they're going  
16 to develop this cost estimate and the different phases of  
17 the project, and depending on where they're at, things  
18 they need to consider or the parts of the project that we  
19 deem important for them to consider.

20 Also from the working group, if you move to  
21 page 24-39(i), these are all the -- these are the things  
22 that the working group considered to be things to  
23 consider in the events that would drive that cost  
24 estimate. And again, this is from the working group.  
25 And I referred to the table Appendix B on (ii) -- or,

1 excuse me. Appendix A -- as the table. Again, it gives  
2 a little bit more detail of the activities associated  
3 with each of these -- or, excuse me -- more detail of  
4 activities associated with these, I guess, higher  
5 categories. But again, that comes from the working  
6 group.

7 And as Ms. Ladd also referred to on Part (iii),  
8 this is where we talk about the cost estimate, the  
9 multidisciplinary model using that Monte Carlo or  
10 probabilistic framework.

11 I'll refer to line numbers. I'm sorry. I'm  
12 kind of jumping around here. On line 1886 on page 24-39,  
13 that's, again, where we actually tell them the type of  
14 modeling that they need to use in developing this cost  
15 estimate that Ms. Ladd also referred to in her  
16 presentation.

17 On line 1895, Part (e), on 24-39, this comes  
18 from CFR 146.93. And this, again, addresses that special  
19 revenue account after site closure -- or, excuse me --  
20 site post closure that they have to give us a cost  
21 estimate for the measuring, monitoring and verification  
22 of the sequestration. Again, this is our long-term  
23 monitoring that we, again, are trying to establish money  
24 to make sure that in the event something may happen down  
25 the road, that we still have financial assurance to

1 address that.

2           On page 24-40, on line 1902, we give, again,  
3 some of the qualifying instruments for financial  
4 assurance, again, coming from Code of Federal Regulations  
5 146.85(a)(i), listing all the types of instruments that  
6 are acceptable. And again, we talk about continuation,  
7 the types of instruments that they need, how they need to  
8 be approved by the director, so on and so forth.

9           Do I need to go through in detail some of these  
10 other conditions? Because, again, they come straight  
11 from the Code of Federal Regulations and basically just  
12 address all the aspects of the financial responsibility.

13           On page 24-44, toward the end of the section,  
14 lines 2100 on down to 2121, we discussed are being  
15 released from financial responsibility. Part (m)(iii),  
16 which is on line 2112, was basically clarification  
17 because we're allowing -- being that the project --  
18 sequestration project can be phased, once certain phases  
19 are completed, we give them the opportunity for partial  
20 release from some of their financial responsibility. And  
21 that is just, I guess, giving them an option if they  
22 would like to release some of that money that they have  
23 sitting out there for projects or part of the project  
24 that's passed and closed.

25           And on Part (n), following release of financial

1 assurance, it has to be, again, approved by the director  
2 and gives them, again, the chance to recertify or get a  
3 different level of financial assurance depending on where  
4 they are with the project.

5           And again, like I said, the bulk of these  
6 changes are straight from the Code of Federal  
7 Regulations. Some of them come from state statute. And  
8 again, there's maybe one or two that just added  
9 clarification to the information provided or that were  
10 requested.

11                   MR. HANSON: Madam Chair, may I ask a  
12 question?

13                   CHAIRMAN BEDESSEM: Yes.

14                   MR. HANSON: Going back to 24-5, just a  
15 quick question. Under (c)(i), Section (c)(i), "After  
16 consultation," et cetera, there's this very tricky word  
17 in there, namely "may." Who determines what here when it  
18 says "may"? Because there's a whole list coming. And  
19 it's sort of open-ended. If you say "will," "shall," I  
20 like that. But "may" is sort of, well, maybe yeah, maybe  
21 no.

22                   MR. TILLMAN: Again, that language is from  
23 Code of Federal Regulations. I think it gives the  
24 administrator the flexibility as to whether or not he  
25 deems those -- these aspects important or needs further

1 consideration in determining whether or not this permit  
2 is required. So the word "may" I believe is appropriate  
3 for that to allow that flexibility.

4 MR. HANSON: That's a bit wishy-washy.

5 MR. TILLMAN: Yes, sir. I admit that.  
6 But with purpose.

7 MR. HANSON: With purpose. Okay.

8 MR. FREDERICK: Let me elaborate on this a  
9 little bit. This is the issue of transitioning a Class  
10 II well to a Class VI well. And a Class II well, among  
11 other things, is used for enhanced oil recovery. In this  
12 case, it would be carbon dioxide for enhanced oil  
13 recovery.

14 But about a year and a half ago EPA published a  
15 guidance document on how they expect to see Class II  
16 wells transitioned to Class VI wells, or when. And they  
17 essentially identified these criteria on 24-5 beginning  
18 at line 233 -- I believe there's seven of them or nine --  
19 as considerations that should be undertaken either by the  
20 operator or by the Class VI director, which is DEQ, to  
21 see whether or not, due to increased injection pressures  
22 and so forth, that there may now be a potential for  
23 leakage of the CO2 into an underground source of drinking  
24 water, which is an aquifer that contains less than 10,000  
25 milligrams per total dissolved solids.

1           Several states, including Wyoming, expressed  
2 some concern with the guidance document's failure, I  
3 guess, to recognize that in many states, including  
4 Wyoming, while, indeed, Class II wells were EOR,  
5 regulated by a different agency, the Oil and Gas  
6 Conservation Commission, they're the agency that knows  
7 more about evaluating injection pressures into oil  
8 reservoirs than DEQ does.

9           And it was the State of Wyoming's opinion, at  
10 least as far as I know, and it was our opinion at DEQ  
11 that these types of analysis should be completed by the  
12 Oil and Gas Conservation Commission or the operator, not  
13 DEQ. But the rule as written seems to suggest that,  
14 well, it would be the Class VI director, it would be DEQ  
15 who would be the one that would be responsible for  
16 requiring that a Class II operation seek a Class VI  
17 permit. And so there's a little bit of a conundrum  
18 there.

19           And to the question why "may" required permit  
20 instead of "shall," in reference to the director of DEQ  
21 having that responsibility, I guess, we simply don't  
22 agree with EPA that that particular responsibility should  
23 be DEQ's. We try to recognize that we, being DEQ, can do  
24 that but only after consultation with the Oil and Gas  
25 Commission. Because, arguably, they're the experts in

1 evaluating whether this potential risk that would trigger  
2 a Class VI permit actually exists or not.

3           Furthermore, we also recognize that the way the  
4 federal rule -- final federal rule came out, there  
5 appears to be a little bit of a conflict in terms of  
6 distinguishing when a Class II EOR well requires a Class  
7 VI in the federal regulations, as opposed to what the  
8 Wyoming legislature says in our statutes. There's a  
9 question as to whether they align well enough. We think  
10 the question is significant enough that in anticipation  
11 of the State of Wyoming seeking to obtain primacy for the  
12 program and working with the governor's office, we've  
13 recommended that the issue be addressed through an  
14 interim study committee of the Wyoming legislature. And,  
15 indeed, that will be one of the topics they'll be looking  
16 at.

17           We'll be presenting the problem or potential  
18 problem, I guess, in our perspective, at least, at the  
19 minerals committee interim study meeting in Casper, I  
20 believe May 28th, for your information.

21           So, to the question again, this language here  
22 as currently written will certainly be something that  
23 will be discussed. I think there's a potential that -- I  
24 think it's most likely there won't be any suggested  
25 revisions to it now. I think it provides what we need to



1 satisfy the EPA requirement but also provides us the  
2 flexibility to make sure that that consultation with the  
3 Oil and Gas Commission does, indeed, occur before that  
4 permit is required.

5           And I would refer you to page 24-6 on line 253.  
6 I think it's fairly clear that there will be a  
7 requirement or there is a requirement for the operator to  
8 apply for a Class VI permit in the event there is an  
9 increased risk. So that requirement is in place. I  
10 think the -- it's conditioned with the expectation that  
11 DEQ doesn't in and of itself make that decision. Only  
12 makes that decision in consultation with the Oil and Gas  
13 Commission.

14           MR. HANSON: Madam Chair, the only  
15 suggestion -- that makes some sense, what you just said  
16 to me, was that may -- something like that. The director  
17 may, in his best estimate, or something of that nature,  
18 so it isn't so wishy-washy. So we have a statement, in  
19 their best estimate, they will -- they may require one or  
20 the other. Because there's no "or" in there, either.  
21 It's sort of, well . . .

22           MR. FREDERICK: So perhaps the director,  
23 in his opinion?

24           MR. HANSON: In his opinion or estimate or  
25 whatever, best estimate or something of that nature.

1 Thank you.

2 MR. FREDERICK: Thank you.

3 MR. HANSON: I'm sorry to hold us up here.

4 CHAIRMAN BEDESSEM: No problem.

5 MR. HANSON: That's what we're here for.

6 Right?

7 CHAIRMAN BEDESSEM: That's why we're here.

8 So I have a question.

9 MR. TILLMAN: Go ahead, Madam Chair.

10 CHAIRMAN BEDESSEM: So, in Ms. Ladd's  
11 presentation, on the last page, the summary and next  
12 steps, there's a bullet that says the proposed rule also  
13 identifies the need for calculation of cost of  
14 measurement, monitoring and verification costs of GS  
15 sites will be deposited into a special revenue account.  
16 So can you point out to me where anything about a special  
17 revenue account is mentioned?

18 MR. TILLMAN: Madam Chair, I don't think  
19 we call it out as a special revenue account. Maybe we  
20 could. But I believe I reference --

21 CHAIRMAN BEDESSEM: Because I see all this  
22 information requiring coming up with the cost estimate.  
23 I just don't understand the special revenue account and  
24 how that translates into the verbiage that you have in  
25 the document.

1 MS. CAHN: Can we turn up Marge's  
2 microphone? This is Lorie. I'm not hearing Marge's soft  
3 voice. It's muffled.

4 CHAIRMAN BEDESSEM: There it goes.

5 If you want to go ahead and rephrase my  
6 question, that would be wonderful.

7 MS. LADD: I'd be happy to. It's nice to  
8 see your microphone is working. Madam Chair, Ms. Cahn,  
9 the question was, in the last -- this is Laura Ladd  
10 speaking. In the last slide, I talk about the fact that  
11 you incorporate the need to reference the special revenue  
12 account and create funding for that. The question was  
13 where does that actually show up in the rule? And I  
14 think Mr. Tillman is correct that the specific language  
15 of reference to a special revenue account is not included  
16 in this rule.

17 That said, the mechanism of what that entails,  
18 which is a cost estimate for an MMV activity, is  
19 referenced, as I see it, in 24-44, line 2118, that last  
20 section on there, the last part of Section 19. I believe  
21 what we are talking about there is providing a cost  
22 estimate for that specific purpose. But we don't  
23 reference specifically a special revenue account.

24 CHAIRMAN BEDESSEM: So all this is  
25 requiring is a cost estimate. It's not requiring the

1 deposit of monies anywhere or mechanism for collecting  
2 those monies.

3 MS. LADD: That's correct. At least  
4 that's my understanding. It doesn't specify what we're  
5 going to do with the money or where the money's going to  
6 go.

7 CHAIRMAN BEDESSEM: Or if it's being  
8 submitted. It just says the cost estimate.

9 MS. LADD: Fair point. And that would be  
10 collective, basically. Right? Madam Chair, is that what  
11 you're saying?

12 CHAIRMAN BEDESSEM: Where does it say it's  
13 collective?

14 MS. LADD: No. I'm just clarifying your  
15 point that there needs to be language that states that it  
16 is collective.

17 CHAIRMAN BEDESSEM: Or do you need  
18 statutory authority to create the special revenue account  
19 in order to do this? Because right now I'm seeing just a  
20 requirement for somebody to calculate the money but no  
21 actual submittal of monies at that point.

22 MR. FREDERICK: Ms. Cahn, did you hear  
23 that?

24 MS. CAHN: Poor, though.

25 MR. FREDERICK: The comment from the

1 chairman was that there's no mention of a special revenue  
2 account and a requirement to fund monitoring,  
3 measurement, verification, or MMV, during the post-  
4 closure period.

5           If we would turn to page 24-38, line 1833,  
6 there's a requirement for owners or operators of Class VI  
7 wells to demonstrate, maintain financial responsibility  
8 for all applicable phases, including complete site  
9 reclamation in the event of default. Phases of geologic  
10 sequestration are as follows: Line 1844, long-term care.

11           There's a nuance here that we need to  
12 recognize. And the nuance is essentially that in the  
13 post-closure phase, there's going to be monitoring to the  
14 point of demonstration that plume stabilization has  
15 occurred. At that time the operator is released from the  
16 financial assurance requirements. That's the nuance.  
17 However, in the regulation, we're saying that you have to  
18 maintain financial responsibility for all phases. So the  
19 idea is that the financial responsibility for the  
20 long-term-care phase that's going to be funded through  
21 the special revenue account will, indeed, be supplemented  
22 by this requirement that funds somehow be provided.

23           CHAIRMAN BEDESSEM: I'm confused as to  
24 where it says that the special revenue account exists and  
25 it's going to be doing that.

1 MR. FREDERICK: No, it doesn't.

2 CHAIRMAN BEDESSEM: And when it says  
3 applicable, if I was a permit applicant, I'd say, well,  
4 the documentation says that after I'm released, so I'm  
5 covered, I have to have financial assurance in post-  
6 closure care until the point where the plume is  
7 stabilized. Right? Is that correct? Then once the  
8 plume is stabilized, so after that, I'm off the hook, and  
9 I can say that it's not applicable anymore. So the word  
10 "applicable" -- I'm concerned about the word  
11 "applicable." Because, to me, it would say to me that,  
12 based on the other verbiage in the rule, that I'm not  
13 responsible for financial, you know, requirements in that  
14 long-term-care part because it doesn't define this other  
15 mechanism that we've talked about but isn't actually  
16 really in the rule.

17 MR. FREDERICK: Right. No. And I  
18 certainly understand just exactly what you're saying  
19 here. In part, that's why we're having this  
20 conversation, where there's obviously an opinion that we  
21 need further clarification on how that is going to work.  
22 There's been perhaps a little concern, on my part, at  
23 least, about getting into the details of how the special  
24 revenue account is going to be funded, or more precisely,  
25 what the requirement for funding that special revenue

1 account is going to be. And that's a discussion that  
2 still needs to be held not only within the agency, but  
3 also before the advisory board. And I don't intend to  
4 suggest that we're ready to have that conversation yet.  
5 I don't need to include that discussion in this  
6 regulation to have primacy, however.

7 CHAIRMAN BEDESSEM: Gotcha.

8 MR. FREDERICK: But I'm not ignoring that  
9 it needs to be addressed at some point in time. So I  
10 think to your point, some clarification is needed there.  
11 We'll certainly take care of that. My recommendation is  
12 going to be that we simply clarify that funding won't be  
13 directed to the special revenue account to provide for  
14 long-term monitoring, verification. Leave it as simple  
15 as that.

16 CHAIRMAN BEDESSEM: That would be fine,  
17 just so there's something. Because we're having this  
18 discussion about it. But if you read the rule and didn't  
19 have the discussion, I don't know that an applicant would  
20 know that that even exists and that was your intent at  
21 this point. But you don't need to have, for example,  
22 statute authority or something else to go on in order to  
23 establish the special revenue account?

24 MR. FREDERICK: Madam Chair, we do have  
25 statutory authority.

1                   CHAIRMAN BEDESSEM: Just based generally  
2 on the Environmental Quality Act?

3                   MR. FREDERICK: Yeah.

4                   CHAIRMAN BEDESSEM: That's fine. I  
5 believe you, Administrator Frederick.

6                   MR. FREDERICK: I can't put my finger  
7 right on it.

8                   CHAIRMAN BEDESSEM: That's fine.

9                   MR. FREDERICK: We do.

10                  CHAIRMAN BEDESSEM: That was just one  
11 question I had, that I felt -- I understand what you were  
12 getting at, but then I couldn't find the corresponding  
13 thing in the rule to understand how that was going to be.  
14 Not necessarily the details, but that it was actually  
15 going to happen.

16                  And then on page 24-39, and I don't know if  
17 this is verbatim from the CFR.

18                  MR. TILLMAN: Yes.

19                  CHAIRMAN BEDESSEM: I just am curious that  
20 "entrained contaminate releases" or "storage rights  
21 infringement" are in there like they're the name of  
22 something. They're capitalized. And they're not in the  
23 definitions. I'm not sure why they're capitalized when  
24 the other things in there are not.

25                  MR. TILLMAN: Madam Chair, on page 24-39,



1 line 1856 through 1893, comes from the working group  
2 report. That is not CFR language. That is from the  
3 working group. And the fact that it's capitalized is  
4 just I capitalized it.

5 CHAIRMAN BEDESSEM: But it's not a title,  
6 so can it just be regular verbiage?

7 MR. TILLMAN: Yeah. That's not a deal. I  
8 just took it from their report. It was capitalized  
9 there. I capitalized it there.

10 CHAIRMAN BEDESSEM: For consistency, can  
11 we have it be regular? Because when I see that, I'm  
12 looking in the definitions to try to figure out what that  
13 is.

14 MR. TILLMAN: Absolutely. We can  
15 definitely address that.

16 CHAIRMAN BEDESSEM: But I think my main  
17 question to you, you already answered, and that was what  
18 I was most interested in.

19 Lorie or Calvin, do you have any additional  
20 questions for this group?

21 MS. CAHN: Yeah. While we're on -- Madam  
22 Chair, while we're on page 24-39, one of my questions is  
23 about the Appendix A, the risk activity matrix that's  
24 going to be used in the Monte Carlo simulations.  
25 Actually, let's talk about Monte Carlo simulations. How

1 readily available is this Monte Carlo model for the  
2 industry? What does it cost to run this model? I'm  
3 familiar with Monte Carlo simulations because I did my  
4 master's thesis on it. But that was many years ago. And  
5 at that time they were not readily available. So I'm  
6 just curious about that.

7 CHAIRMAN BEDESSEM: She's not letting on  
8 her age.

9 MS. LADD: Madam Chair, Ms. Cahn, thank  
10 you for the question. I think my answer to that is -- I  
11 would have two answers. One, you can create an Excel  
12 model using Monte Carlo simulation with some modest  
13 amount of effort to learn how to do something in Excel.  
14 It's more than the basic things we all probably do. But  
15 I think it can be learned in a few hours of time if a  
16 person wanted to do that. I tend to believe most of  
17 these companies have analysts and finance folks that are  
18 reasonably advanced in Excel and could use that tool.

19 That said, my preferred recommendation, anyway,  
20 would be that you engage -- that we would hope that a  
21 third-party economics firm might do this work for them so  
22 that there is some objectivity to the recommendation or  
23 some third-party analysis. And I think that work could  
24 cost something on the order of \$50,000. Wouldn't be  
25 unusual for it to cost something like that, particularly

1 if a firm hired IEC or one of these other consulting  
2 firms.

3 I am aware, for example, that the folks in  
4 Alberta were keen to try to make sure there were multiple  
5 consulting firms that could do this work at a price that  
6 wouldn't be so onerous and had a couple other  
7 recommendations beyond IEC. IEC happened to be pretty  
8 expensive. So there is a marketplace for it. It's just  
9 a rough estimate, but I think it could cost \$50,000 or  
10 something to do that work.

11 MS. CAHN: And then what about, you know,  
12 the model's only going to be as good as the data going  
13 into the model. And so how reliable are the PDFs, the  
14 functions, the probably distribution functions, going  
15 into the model? Is that just a flat --

16 MS. LADD: Madam Chair, Ms. Cahn, that is  
17 an excellent question. I think that the -- what you get  
18 out is only as good as what you put in. No doubt about  
19 it. I think that what DEQ would want to do, regardless  
20 of whether a third party or an in-house effort was  
21 completed, is to ask for a summary of the probabilities  
22 and the cost curves used and the assumptions used in the  
23 creation of that model to validate independently  
24 themselves whether that seemed reasonable and robust.

25 And wherever possible -- for example, in the

1 work that was done by IEC, wherever possible, you want to  
2 just use third-party information that's commonly known,  
3 like well failures and that kind of information. So  
4 you're looking for data that is an input to the model  
5 that is generated by a third party in similar activities.

6 I think, frankly, even in this study we  
7 struggled with -- I'm looking at Director Frederick if he  
8 wants to elaborate. But we struggled with the  
9 assumptions in two or three instances out of, I don't  
10 know, a dozen of the inputs. That's my sort of  
11 recollection. It's not that easy to -- it takes some  
12 thought to try to gather the best input you can. And  
13 it's probably -- at this stage, given the infancy of the  
14 industry, it's pretty good. You could expect something  
15 would be pretty good if they went through this effort,  
16 but it's not going to be perfect.

17 If you want to add anything . . .

18 MR. FREDERICK: Sure, just a little bit.  
19 We certainly recognize that, to a degree, we're breaking  
20 some new ground here. Unfortunately, there isn't a  
21 cookbook that's been developed that we can pull off the  
22 shelf and say, you know, we like this. This is what  
23 we're going to do here. So we certainly recognize that  
24 we need to move ahead. We think we've got a good basis  
25 building on the work that was done by the Wyoming working

1 group, by IEC, the national working group, perhaps a  
2 collection of the -- the most people that would be  
3 familiar at least in a sense of having an intelligent  
4 conversation and discussion about how to skin this cat.  
5 This is the state of the art today as we know it.

6 That's not to say that we recognize there  
7 certainly are some imperfections that can be improved  
8 upon. And I fully expect that someday when things get a  
9 little bit perhaps more clear or there's a better method  
10 out there, we'll be back before you. But we don't want  
11 to wait until that point in time. We want to move ahead.  
12 We think we've got a good process here. So that's kind  
13 of where we're at.

14 MS. LADD: Madam Chair, Ms. Cahn, I think  
15 I want to just add, when evaluated what kind of process  
16 to recommend, we were uncomfortable that estimating cost  
17 through a single data point or a single set of  
18 experiences was sufficient, given the uncertainty created  
19 by time and the nascency of this industry. So it's  
20 probably the best available alternative and not in an  
21 imperfect situation.

22 CHAIRMAN BEDESSEM: Additional comments,  
23 Lorie?

24 MS. CAHN: I guess I would be -- I  
25 appreciate what Kevin and Laura have said and agree with

1 them. I like Laura's suggestion to have this produced by  
2 an independent party. But I have another question for  
3 Kevin, and that is do you feel that you have enough  
4 people or the proper people on your staff that can  
5 evaluate the report that you'll get from -- if you get it  
6 from an independent? Whether you get it from an  
7 independent group or whether you get it from the  
8 companies proposing to do this, do you have the people on  
9 staff available to really assess the assumptions that  
10 went in, adequacy of the assumptions, (inaudible)  
11 functions?

12 MR. FREDERICK: Good question, Lorie. We  
13 don't at the time. However, there's no need at this  
14 time. And it's probably going to be some time. We don't  
15 know how long. Could be tomorrow. It could be next  
16 year. Could be further out in the future when we will  
17 need that type of expertise and talent.

18 But I can tell you this, that the legislature  
19 agreed with Director Corra's recommendation at the time  
20 that we did need that expertise specifically, and they  
21 agreed to essentially provide authorization to hire an  
22 individual to perform those functions for DEQ when the  
23 time came. So it's been recognized, and it's certainly  
24 available to us.

25 CHAIRMAN BEDESSEM: Any further questions,

1 Lorie?

2 MS. CAHN: I have some questions while  
3 we're on the section, similar to -- on line 1869 -- and  
4 I'm in the red-line strikeout -- I'm assuming that when  
5 you say storage rights infringement which is a form of  
6 mineral rights infringe, so I'm assuming that means it's  
7 a subset of mineral rights infringements?

8 MR. FREDERICK: Interesting question. As  
9 I understand it, as established by the Wyoming  
10 legislature, pore space actually falls within the estate  
11 of the surface owner, as opposed to the mineral owner. I  
12 think it reasonably can be viewed as a separate estate  
13 that can be severed from the surface estate if the  
14 surface estate owner wishes to sell it, for instance, or  
15 lease it.

16 So I don't think it's precise to say that it's  
17 a subset of the mineral estate, but I think it recognizes  
18 that both the mineral estate and the pore space are  
19 similar in that the -- the requirement of pore space  
20 availability is a requirement for each to have any type  
21 of value, essentially, at least as it relates to oil and  
22 gas development. Mineral development, perhaps not so  
23 much. But I don't think it's a subset, Ms. Cahn.

24 MS. CAHN: I guess I'm asking the question  
25 because I'm not sure about the language. I'm trying to

1 understand the difference between storage rights  
2 infringement and mineral rights infringement in this  
3 application. And do we need definitions? Do we need  
4 definitions of those, and do we need to address them as  
5 two separate issues? Right now my understanding is the  
6 way it's worded, if there were to be -- excuse me for a  
7 second. If there were to be a comma after storage rights  
8 infringement, then -- so it would be storage rights  
9 infringement, comma, which is a form of mineral rights  
10 infringement. Then are we only talking about the storage  
11 rights infringement, or do we also want them to address  
12 mineral rights infringement?

13           So I don't understand the differences. I guess  
14 I feel like we need some definitions. And, you know, you  
15 need to think about whether those need to be two separate  
16 things or one is a subset of another, or are you only  
17 talking about one and not the other? So the language is  
18 confusing to me.

19           MR. FREDERICK: Right. Thank you for the  
20 question. I agree. What we need to do, Ms. Cahn, is  
21 revisit the working group reports and report -- I should  
22 say their final report that talked about this, see if we  
23 can make a little bit more clarification on whether  
24 there's a distinction between storage rights infringement  
25 as a form of mineral rights infringement and simply



1 mineral rights infringement, which, as you pointed out,  
2 is already covered on 1861. We'll take another look at  
3 that. Thank you.

4 MS. CAHN: Thank you. And then I had a  
5 question on line 1896 with the use of the word "sites."  
6 It's not clear to me if that should be plural or  
7 possessive or both.

8 MR. TILLMAN: Ms. Cahn, that came from  
9 federal language direct. I'll take a look at that. That  
10 is from the Code of Federal Regulations, so we'll look at  
11 it.

12 MS. CAHN: Okay. Great.

13 MR. HANSON: Should have an apostrophe.

14 MS. CAHN: And then on line 1883, when you  
15 start talking about the risk activity matrix in Appendix  
16 A, it looks a little cryptic to me to just have that  
17 appendix and say you're going to have to use this, and  
18 not much in the way of any kind of guidance on how to do  
19 it. So I don't know if you're planning on a guideline to  
20 come out or later a worksheet or something that would  
21 help somebody with how to do this. To me, it was -- I  
22 don't know if it belongs in the regulation. But at some  
23 point, there needs to be some kind of information about  
24 how to go from this language to the appendix tables.

25 MR. TILLMAN: Ms. Cahn, the intent of

1 Table A or Appendix A was more detailed than what I  
2 was -- what I thought was necessary in the actual rule.  
3 And that's why I put it as an appendix. So it gave a lot  
4 more detail for each of those type of scenarios as to  
5 what should be possibly considered. And I thought  
6 that -- I guess I didn't consider that to be explained  
7 other than it's -- it's obviously more detailed and to be  
8 used in their evaluation of making their cost estimate.  
9 By all means, if there is some confusion -- we haven't  
10 had any comments from industry or from anybody, so those  
11 folks that would actually be doing this and making that  
12 cost estimate were not -- I would assume that they're  
13 comfortable with that table and how to apply it. If  
14 there needs to be further clarification, we can have a  
15 policy to address that.

16 MR. FREDERICK: Ms. Cahn, I think your  
17 point is that perhaps it needs to be a little bit more  
18 clearer as to what the purpose of Appendix A is and what  
19 our expectations were to use, maybe. Would it help to  
20 perhaps just make that a little bit more clear in terms  
21 of say, for instance, those risks identified in Appendix  
22 A shall be considered or evaluated during the risk  
23 assessment process?

24 MS. CAHN: That's correct.

25 MR. FREDERICK: Thank you.

1 MS. CAHN: And then if we jump to Table A,  
2 I had a lot of questions. I'll start with 1.4. After  
3 "Acts of God," it says "seismic event." And so my  
4 question there is, is that the only act of God that you  
5 want them to look at? So is this an e.g. or an i.e.? Is  
6 this a "such as," or is this a -- or is that a "that is"?

7 MR. TILLMAN: I'm confused.

8 CHAIRMAN BEDESSEM: Well, I think what  
9 Lorie's asking is that Item 1.4, "Act of God," in  
10 parentheses next to it is "seismic event." So are those  
11 synonymous, or are you looking at multiple different acts  
12 of God and an example is a seismic event?

13 MR. FREDERICK: As I recall, that was  
14 intended to be an example. However, I think, in my  
15 recollection -- Laura, correct me if I'm wrong -- that  
16 seemed to have been the most likely type of act-of-God  
17 event that might occur here in Wyoming that could be  
18 considered. Obviously other types of events associated  
19 with, quote, unquote, an act of God certainly may occur.  
20 But to try and anticipate what tornado damage, for  
21 instance, on an injection site might look like and  
22 whether or not that might touch an injection well and  
23 destroy it and thus require some type of financial  
24 assurance requirement to cover that event, you know, we  
25 start getting off into a little bit of the unpredictable.

1           So I think the focus was really let's at least  
2 specifically look at seismic events at a minimum, and  
3 whether or not we think there's a need to go beyond that,  
4 address that on a case-by-case basis.

5           Laura?

6           MS. CAHN: So my question -- go ahead,  
7 Laura.

8           MS. LADD: Thank you, Madam Chair,  
9 Ms. Cahn. I just want to highlight, if you look at  
10 Appendix A, in most of the major risk events that are  
11 outlined, you see act of God as a potential subset of  
12 that risk. And in the one, for example, under 5.3, it  
13 then says "Acts of God affecting storage capacity of pore  
14 space." So it's using a different example.

15           So the way I think about it -- and it's been  
16 some time since we created this chart. But the way I  
17 think about that is, what you're really talking about is,  
18 taking the first example of mineral rights infringement,  
19 these various things which could cause mineral rights  
20 infringement. So an act of God, like a seismic event  
21 which resulted in mineral rights infringement or trespass  
22 or an act of God, going down to the next example, that,  
23 probably from a seismic event, that caused water quality  
24 contamination. So just like, for example, the formation  
25 fluid impact would then cause mineral rights

1 infringement.

2           So it's ultimately examples of things which  
3 could occur that cause that nature of category to be  
4 triggered. So it's not -- I think the answer is you  
5 could, frankly, just delete -- you could just have it  
6 read "Act of God," because it's really --

7           CHAIRMAN BEDESSEM: Or you could say "such  
8 as a seismic event."

9           MS. LADD: "Such as a seismic event."  
10 That would be easy to do.

11           MS. CAHN: That was my only question, was  
12 whether it was i.e., or e.g., because they mean two  
13 different things. And I just thought it should have in  
14 front of it either the "such as," or as an example, or  
15 "that is," the "i.e."

16           MS. LADD: Yeah.

17           MS. CAHN: And so I think in every case  
18 where there's a parenthetical, it would be nice to just  
19 say, are you wanting to only address the one that's on  
20 there, or do you want to address other examples that are  
21 like that one? That's all. So it's just a general  
22 comment to clarify that.

23           CHAIRMAN BEDESSEM: And also, while we're  
24 in the vicinity of that 1.4 or 2.4 right in the -- the  
25 2.3 --

1 MR. HANSON: 3.7.

2 CHAIRMAN BEDESSEM: Yeah. But in 2.3 can  
3 we just fix it so it says "contaminants," not  
4 "contaminates," so we've got the noun in there twice, as  
5 opposed to a verb? Thank you.

6 MS. CAHN: That also happens on line 7.  
7 Should be "contaminants," not "contaminate." And also on  
8 line 7.1, "concentrations of contaminant," not  
9 "contaminate." And also on line 5, "entrained  
10 contaminant gases," rather than "contaminate gases."

11 And while we're on -- and there's other things  
12 like font sizes and, for instance, on page A-2, risk  
13 activity table, it's a bigger font than the actual table  
14 itself and bigger font than the Appendix A, risk activity  
15 table. So there's a lot of font issues on here with just  
16 font size. And things like CO<sub>2</sub>, the 2 should always be a  
17 subscript. And that occurs in a number of places, so you  
18 could just do a search.

19 And then I'm confused about the second table,  
20 the table that's at the bottom of page A-2 for the  
21 compliance activities that will require financial  
22 assurance. I'm not sure where this has a reference in  
23 the main body or how that relates to -- I mean, it  
24 doesn't have a -- it doesn't have like this is Appendix  
25 A, Table 2, or -- so it's not clear how that those three

1 items relate to the proposed regulation.

2 MS. LADD: Madam Chair, Ms. Cahn, I'm  
3 guessing -- I can't remember exactly where that starts  
4 from. But, frankly, I would probably recommend, for  
5 purposes of where we're referencing Appendix A, that we  
6 delete that, because it's -- I'm looking at Bill.

7 MR. TILLMAN: It was a part of their risk  
8 matrix table, And so I just included it with it.

9 MS. LADD: I think it's covered. That's  
10 really why I suggested --

11 MR. TILLMAN: That's fine. We can delete  
12 that.

13 MS. LADD: But either way, we'll go back  
14 and review the genesis of that language and either have  
15 it be consistent with Appendix A that's there in terms of  
16 how it flows or remove it.

17 MS. CAHN: Okay. I think I felt like it  
18 was redundant. It was really already adequately covered  
19 and didn't need a separate sub table or whatever it is.

20 I have about two or three dozen examples of  
21 where "that" is -- "which" is used when "that" is meant  
22 that I didn't catch the first time around. So, rather  
23 than go through every line number, perhaps I can just  
24 send that to either Gina or Laura or Kevin or Bill or  
25 whoever you tell me to send that to.

1 MR. FREDERICK: Send that to Gina, Lorie.  
2 Thank you.

3 MS. CAHN: And then the next question I  
4 have is on page 24-16 in the red-line strikeout version,  
5 line 762. And this has to do with both line 762 and line  
6 768. So the question I have is the proposed formation  
7 testing program. Is this proposed if results need to be  
8 in the application? And then on line 768, results of the  
9 formation testing program as required in paragraph --  
10 that one above. So is this not in the application? Do  
11 you see what I'm saying? It's like one's referring --  
12 seems like one's the cart before the horse and not -- so  
13 it's confusing.

14 MR. FREDERICK: Yeah. I see your point,  
15 Lorie. Let me take a look at that.

16 MS. CAHN: And then the next question I  
17 have is on line -- it's on page 24-19, line 890, and the  
18 wording -- the request for coverage under the individual  
19 permit, it just seems -- and I had this problem before.  
20 It just seems -- I don't follow the sentence, which  
21 reads, conduct any authorized injection activity in a  
22 manner that results in a violation of any permit  
23 condition or representations made in the application,  
24 comma, the request for coverage under the individual  
25 permit. And it just seems like what's in the clause



1 following the comma doesn't connect to the rest of the  
2 sentence.

3 MR. FREDERICK: Yeah. We agree with that,  
4 Lorie. I don't know if that's an artifact or what. But  
5 we'll take a look at that.

6 MS. CAHN: Thank you. Okay. On page  
7 24-22, on line 1054 it says, "Permit continuous  
8 monitoring of the annulus space." And I'm just wondering  
9 what monitoring is going on and what are you envisioning,  
10 what specific parameter that would be continuous  
11 monitoring?

12 MR. FREDERICK: That's essentially annulus  
13 pressure.

14 MS. CAHN: So could we just add in  
15 "pressure"? Could we say, "Permit continuous monitoring  
16 of the pressure within the annulus space"?

17 MR. FREDERICK: We'll take a look at that.

18 MS. CAHN: The next set of comments that I  
19 have are on page 24-24. And I'm just quickly looking at  
20 how many comments I have to see if maybe we should have a  
21 ten-minute break. But I think I'm actually getting very  
22 close to the end of mine. And then I could maybe suggest  
23 we have a ten-minute break and then go on with the rest  
24 of the board comments if that would work. Or do people  
25 want -- we've been going a long time. I'm wondering if

1 we need a bathroom break.

2 CHAIRMAN BEDESSEM: I think after Lorie's  
3 comments, I don't think there will be very long after  
4 that. We can probably just wrap it up in about fifteen  
5 minutes.

6 MS. CAHN: I couldn't hear Marge.

7 CHAIRMAN BEDESSEM: I'm saying if you go  
8 through yours, I think we just have a very few short  
9 things after that, and we can probably wrap this up in  
10 about fifteen minutes. And then we'll take a ten-minute  
11 break and change topics. It's still water quality items,  
12 but we'll be done with this topic. So please go forward.

13 MS. CAHN: My next set of comments are on  
14 page 24-24. These are on the injection depth waiver  
15 requirements. I think in 1141 line number, it would be  
16 much simpler English if we could replace the first "the"  
17 with "each" and get rid of all the pluralizations. So it  
18 would read, "A demonstration that each injection zone is  
19 laterally continuous, is not a USDW, is not hydraulically  
20 connected to USDWs, does not outcrop within the area of  
21 review," et cetera. And the reason is, if we start with  
22 the "is/are" and "zone/zones," you have to carry that all  
23 the way through all the sentences, "do/does." And I just  
24 think that would just simplify the language.

25 MR. FREDERICK: Yeah, I think that's

1 reasonable, Lorie.

2 MS. CAHN: And then on line 1147, we're  
3 talking about the report shall contain the following.  
4 And then the second -- that sentence says, "The confining  
5 unit shall also demonstrate that they are free of  
6 transmissive faults." Well, confining units don't  
7 demonstrate anything. And since we say the report has to  
8 contain the following, I think it could just be a  
9 separate (iii) or part of that line just say, "a  
10 demonstration that units are free of transmissive faults  
11 and fractures."

12 CHAIRMAN BEDESSEM: And then also in that,  
13 for some odd reason, that subset (iii) --

14 MR. TILLMAN: We just caught that.

15 CHAIRMAN BEDESSEM: -- is not in the right  
16 spot.

17 MS. CAHN: We caught that on the last one.  
18 And for some reason it -- we talked about it last time.  
19 Didn't get fixed.

20 On my -- on page 24-26 on line 1237, the use of  
21 the word "first" in the "pressure in the first USDWs  
22 immediately above and below," I think it's confusing.  
23 And so I would suggest we took out the word "first."  
24 You've still got "immediately above and below." So I  
25 think it doesn't need to be there, and it would be more

1 clear to delete the word "first."

2 MR. FREDERICK: Okay, provided we can get  
3 it by EPA. It's their language.

4 MS. CAHN: Oh, is that EPA language?

5 MR. FREDERICK: Verbatim.

6 MS. CAHN: We can never -- I won't say  
7 anything. On page 24-36, on line 1729, (A), I would just  
8 delete "the" and delete "of" and just make it,  
9 "Publishing the notice of the application."

10 MR. FREDERICK: Yeah. You'd be  
11 correcting -- no. We can do that without offending any  
12 legislator.

13 MS. CAHN: This is not directly out of  
14 statute?

15 MR. FREDERICK: No. It's paraphrased.

16 MS. CAHN: On page 24-41 on line 1972, I  
17 think the word "remain" needs to be "remains." Because  
18 you have parentheses -- that should be "remain,"  
19 parentheses, "S," parentheses, to follow the  
20 "instrument," parentheses, "S," parentheses.

21 On page 24-42, in this whole section there's  
22 some things that are bolded that it's not clear why  
23 they're bolded. So, for instance, on page -- or, line  
24 2009, "by using one or multiple qualifying financial  
25 instruments" is bolded. On line 2037 "self-insurance" is

1    bolded, at least in my copy.  On the next page, line  
2    2053, "financial test" is bolded.  So perhaps those don't  
3    need to be in bold.

4                   MR. FREDERICK:  Agreed.

5                   MS. CAHN:  And then there's some weird  
6    capitalizations in here, as well, as Marge was pointing  
7    out.  So line 2039 we have "tangible net worth" capped,  
8    and in the next line, 2040, it's not capped.  And those  
9    caps, I think it should just be lower case.  Same with  
10   line 2040.  The word "net" in "networking capital" is  
11   capped, but "net" is not capped and "tangible net worth."  
12   So I think just check through carefully for those kinds  
13   of things.

14                   And that's all I have.

15                   MR. FREDERICK:  Thanks, Ms. Cahn.

16                   CHAIRMAN BEDESSEM:  And I have one  
17   question that's going back to our previous conversation.  
18   I'm sorry to go back to this with respect to that special  
19   revenue account.  So I'm assuming that the reason why a  
20   reference to that wasn't included originally is because  
21   all the details have to be worked out and what's going to  
22   be done with that and how that mechanism would work.  So,  
23   if you have kind of a generic thing in there that shows  
24   the intent to have the special revenue account and that  
25   money will be actually collected in that long-term-care

1 category for that purpose, then once a mechanism is  
2 worked out on how that would be charged, whether it be  
3 charged with throughput or permit or whatever it is, do  
4 you have to come back and change these rules at all, or  
5 can that be simply done via a guideline for that special  
6 revenue account?

7 MR. FREDERICK: If I understand the  
8 question, do we need to clarify how the -- how the funds  
9 actually are provided to the account and managed,  
10 essentially?

11 CHAIRMAN BEDESSEM: Well, I guess I'm just  
12 hoping you're going to tell me you can just do a  
13 guideline later and that you don't have to do any  
14 additional things.

15 MR. FREDERICK: That's just exactly what I  
16 was going to tell you, yes.

17 CHAIRMAN BEDESSEM: Thank you.

18 MR. FREDERICK: It doesn't need to be in  
19 the rule book. We can address it otherwise.

20 CHAIRMAN BEDESSEM: Calvin, Klaus, so you  
21 have anything that you want to add or comment?

22 MR. JONES: I don't. Most of my comments  
23 have already been covered.

24 MR. HANSON: Just to add a note of levity,  
25 at line 1877 on page 39, it strikes me like coming from

1 Planned Parenthood.

2 CHAIRMAN BEDESSEM: Thank you for that  
3 note of levity.

4 MR. TILLMAN: I believe that's under CYA.

5 MR. HANSON: It says "accident/unplanned  
6 events."

7 MS. LADD: They can be expensive.

8 MR. HANSON: They can be expensive.  
9 Right. Use precaution.

10 CHAIRMAN BEDESSEM: If there are no  
11 additional board comments, the public comment period,  
12 then, on this batch ends today. Correct?

13 MR. FREDERICK: That was the  
14 recommendation that we wanted to put before the board,  
15 yes, Madam Chair.

16 CHAIRMAN BEDESSEM: And considering  
17 there's only one other individual in the room, do you  
18 have any comments that you would like to submit on this  
19 particular topic?

20 MS. TAYLOR: Madam Chair, not on this  
21 issue, no.

22 CHAIRMAN BEDESSEM: Thank you very much.  
23 Just wanted to make sure we didn't neglect any kind of  
24 public comment, since those comments are to be taken  
25 through this board meeting today. Considering that there

1 have been no public comments up to this point, I don't  
2 imagine there is any need to extend this. Is there --  
3 and from your discussion, you're going to move forward  
4 with making additional changes to accommodate your -- the  
5 checking between the federal rule and the cross-vending  
6 and come back with that.

7           So, at this point, the board has just  
8 essentially been educated and provided comments on what  
9 the changes have been to date, and then we will see this  
10 rule again in the next meeting that hopefully you will  
11 set or at least get the dates narrowed down at the end of  
12 today's meeting and expect to see that package at that  
13 time. Is that a correct summary, Administrator  
14 Frederick?

15           MR. FREDERICK: Yes, Madam Chair, I think  
16 that's correct. We will make those changes to this  
17 regulation that the board suggested we consider today and  
18 bring this back before the board for a recommendation and  
19 rule before the Council at the next meeting. I hope to  
20 also be prepared to also be able to present to the board  
21 then the crosswalk changes that we'll need to reconcile  
22 in order to move forward with the primacy. But I think I  
23 would prefer to handle those as two separate actions  
24 before the board. So I think that's what we'll do.  
25 We'll bring back the revisions here, and then we'll also



1 bring in proposed crosswalk changes.

2 CHAIRMAN BEDESSEM: Do you then have to  
3 public-notice the crosswalk changes?

4 MR. FREDERICK: Yes, ma'am.

5 CHAIRMAN BEDESSEM: And then you'll  
6 have -- you will suggest two separate actions, but then  
7 you'll have a combined version?

8 MR. FREDERICK: Ideally --

9 CHAIRMAN BEDESSEM: Ideally, if both are  
10 affirmative actions that you could present to EQC?

11 MR. FREDERICK: Yes, ma'am.

12 CHAIRMAN BEDESSEM: Any other comments  
13 from the board? I just wanted to thank all of you for a  
14 very excellent presentation and clarification.

15 MS. CAHN: I have a question.

16 CHAIRMAN BEDESSEM: Go ahead, Lorie.

17 MS. CAHN: I don't understand why we're  
18 going to have two separate actions. Is there no reason  
19 we can't combine the crosswalk table issues with the  
20 changes to this? So that's not clear to me why there are  
21 two separate actions and not one.

22 MR. FREDERICK: I can't anticipate what  
23 the board's reaction is going to be to the crosswalk  
24 changes when they come in. And I do feel somewhat  
25 comfortable that the board will be ready to move the

1 financial assurance requirements at the next meeting. At  
2 least I'm optimistic they'll be ready to do so. So I  
3 don't want to delay that simply because there may be  
4 issues with the crosswalk changes. They're a little  
5 bit -- they've got the potential to be a little stickier.  
6 So that's why I suggest or recommend two separate  
7 actions.

8 MS. CAHN: But the crosswalk changes are  
9 going to be part of Chapter 24. Correct?

10 MR. FREDERICK: Yes, ma'am.

11 MS. CAHN: So it seems funny to -- so you  
12 would want us to send part of Section 24 on to EQC  
13 without the other part of it and then -- I'm confused.  
14 And then have the crosswalk table changes then go  
15 separately and change it again to go to EQC?

16 MR. FREDERICK: No. My objective here is  
17 to keep things moving as expeditiously as possible. And  
18 certainly I believe you support that, as well. I  
19 minimize my risk in delay by separating these two  
20 actions. I have no problem taking the financial  
21 assurance regulation before the EQC and then having --  
22 or, coming back before the EQC again with the crosswalk  
23 changes. That doesn't cause me any problem whatsoever.

24 MS. CAHN: So the issue basically of  
25 primacy is being addressed separately, and that would be

1 delayed?

2 MR. FREDERICK: Yep, exactly.

3 MS. CAHN: Okay. I understand. Thank  
4 you.

5 CHAIRMAN BEDESSEM: Anything else from the  
6 board?

7 (No response.)

8 CHAIRMAN BEDESSEM: Again, thank you for  
9 an excellent presentation on this particular topic, and  
10 we look forward to discussing it again at the next  
11 meeting.

12 MR. FREDERICK: Thank you, Madam Chairman.  
13 And I'd like to thank especially Ms. Ladd for  
14 participating in the presentation today. I didn't  
15 mention that Ms. Ladd has been involved in assisting us  
16 in developing these regulations and will continue to do  
17 so as a consultant to the Department, through the  
18 Council, to the governor.

19 CHAIRMAN BEDESSEM: And so is the next  
20 topic the update on the previous rules and their status?  
21 Why don't you give us that, and we'll take a ten-minute  
22 break. Because I'm assuming that will just be a couple  
23 of minutes.

24 MR. FREDERICK: The chapters that are  
25 described on the agenda here, Chapters 15 and 25, have

1 been before the advisory board and then moved to the  
2 Council. The Council will be hearing these on July 8th  
3 in Cheyenne. And just for your reference again, the  
4 board had requested that we also attach a letter to  
5 Chapter 25 to the Council -- or a memo, I should say --  
6 that kind of explains in detail where the board did not  
7 achieve unanimous consent on certain sections of the  
8 regulations and our response to that. I think you've all  
9 seen a copy of that.

10 MS. CAHN: Excuse me. I don't think I've  
11 seen a copy of the letter that you ended up sending to  
12 EQC. So, if I could get a copy of that, I would  
13 appreciate it.

14 MS. THOMPSON: Hey, Lorie, it's Gina. We  
15 incorporated your edits as requested back in December or  
16 early January. And I hard-copied a -- or, I mailed a  
17 hard copy to each of you. You're on the cc'd list for  
18 that letter. So you should be receiving that within the  
19 next couple of days. Because it went out on the same  
20 date that the notice of intent went out to the Secretary  
21 of State, and the public notice was published in the  
22 Casper Star-Tribune, and our Listserv was sent out, as  
23 well. So the board should be receiving a copy of that  
24 memo. And it's also uploaded to the EQC's docket website  
25 for that particular docket. And I believe it's Docket

1 Number 15-3101. And all of the associated documents for  
2 that chapter are on the EQC's website.

3 MS. CAHN: And that's for Chapter 25?

4 MS. THOMPSON: 15 and 25. That is  
5 correct.

6 MR. FREDERICK: In the mail.

7 MS. CAHN: And the date of that EQC  
8 hearing is what?

9 MR. FREDERICK: July 8th in Cheyenne.  
10 That's also noticed on the EQC website.

11 Okay. Madam Chair, real quickly, Chapters 8,  
12 9, 13, 16, these, again, are part of the rule reduction  
13 initiative of the governor to streamline rules and  
14 regulations. Essentially, these are UIC rules and  
15 regulations, one for Class V wells, one for Class VI  
16 wells. Did I say VI? I and V. And we're combining them  
17 into one chapter, Chapter 27. So that's going to be  
18 before the EQC on the 8th also.

19 MS. THOMPSON: We wanted to note that our  
20 original proposal included Chapter 9. But after further  
21 consideration, we've withdrawn our request to revise  
22 Chapter 9 with the rest of those revisions. So the  
23 notice to the Environmental Quality Council and the  
24 notice of intent excludes Chapter 9. It will remain as  
25 it is.

1                   CHAIRMAN BEDESSEM:   And why was that  
2   decided?

3                   MR. FREDERICK:   I'm glad you asked.   You  
4   know, in retrospect, it occurred to me that 9, as well as  
5   8, were essentially the primary fundamental regulations  
6   in place at the time that the State applied for primacy  
7   for the UIC program.   Over the years, EPA has struggled  
8   with meeting the requirement that they stay abreast while  
9   the regulatory changes that were made to the state's  
10  primacy programs.   So, rather than muddy the waters  
11  further, it's my recommendation and my decision, I should  
12  say, that we're going to leave 9 as it is.

13                   So the discussion at some future time, which  
14  I'm sure will occur after I'm gone, EPA will be knocking  
15  on the door, saying, whatever happened to Chapter 9, and  
16  why did you repeal it, and shouldn't you have perhaps  
17  consulted with us more closely on that before you decided  
18  to do that?   Because it's a fundamental document.

19                   And also upon closer inspection, there's some  
20  key regulatory language in Chapter 9.   Not a lot.   But  
21  there is some what I think is critical language to  
22  maintain in place as a regulation that the Department can  
23  utilize primarily with respect to spills and releases.  
24  It's my opinion that there's regulatory language in there  
25  that allows us to essentially proceed with enforcement

1 actions for spills and releases. And these are  
2 oftentimes intentional. Without the need to collect the  
3 level of documentation and evidence that we normally are  
4 able to collect for spills and releases that are  
5 unintentional and are -- are those where operators are  
6 complying with notifying us of a spill and release and  
7 providing us information and so forth that we can then  
8 use to assess environmental damage. And the intentional  
9 spills and releases, we oftentimes get involved after the  
10 fact or during the act itself, oftentimes without  
11 necessary equipment we need to take a sample, whatever is  
12 being leaked out of a truck or we notice on the ground.

13           The language in Chapter 9 essentially says that  
14 a release to the vadose zone that has the potential to  
15 impact groundwater requires a permit. It's much more  
16 easier for us to document and take action on -- I should  
17 say it's easier for the Department to document that there  
18 has been a release to the vadose zone that may impact  
19 groundwater, as opposed to the alternative, that, indeed,  
20 the release is significant enough that an impact will  
21 occur. So I think there's some subtle differences there  
22 that are worth preserving and would like to relinquish  
23 those by reviewing Chapter 9.

24           CHAIRMAN BEDESSEM: Thank you much for  
25 that explanation. And then is -- this is material that's

1 moving forward, and your department is also working on  
2 changes to Chapter 12, I assume?

3 MR. TILLMAN: Yes.

4 CHAIRMAN BEDESSEM: Yes?

5 MR. TILLMAN: Yes.

6 CHAIRMAN BEDESSEM: That may be down the  
7 pike?

8 MR. TILLMAN: Madam Chair, yes. The  
9 water, wastewater section is currently revising Chapter  
10 12. I'm in the middle of that, as well. And that's down  
11 the road. I can't say exactly when that will be done or  
12 ready to present to the board. Probably more like early  
13 next year. First quarter is my guess, somewhere in that  
14 neighborhood.

15 CHAIRMAN BEDESSEM: Thank you. Are we  
16 ready for break now? Okay. And then we'll discuss the  
17 electronics submissions after break.

18 (Hearing proceedings recessed

19 11:33 a.m. to 11:50 a.m.)

20 CHAIRMAN BEDESSEM: I'm calling to order  
21 again the Water and Waste Advisory Board meeting. We  
22 are -- on the agenda, we're up to Director Parfitt's  
23 response regarding the electronic submittal of comments.  
24 And Administrator Fred -- Frederick -- I'm having trouble  
25 with your last name today -- will speak regarding that



1 issue.

2 MR. FREDERICK: Thank you, Madam Chairman.  
3 I believe you all have had an opportunity to see Director  
4 Parfitt's response to the board's request for DEQ to  
5 consider taking electronic public comments on actions  
6 that the Department brings before the public. And as a  
7 reminder, that includes not only developmental  
8 promulgation of rules and regulations that the Department  
9 is interested in developing, but it also includes several  
10 types of different permits the Department issues that  
11 require public notification and an opportunity to  
12 comment. As related to today's conversation, those do  
13 include the majority of UIC permits for Class I wells,  
14 for Class V wells and for carbon sequestration Class VI  
15 wells, not to mention permits that are also issued by  
16 other divisions in DEQ; in particular, Air Quality  
17 Division.

18 I think Director Parfitt pointed out in his  
19 letter to the board members that DEQ issues approximately  
20 140 different permits, individual permits for public  
21 notice and public comment each month on the average, so  
22 that perhaps recognizing again what the director noted in  
23 his letter, that DEQ probably is the singular agency with  
24 the heaviest lift in terms of providing opportunity for  
25 public comment on actions that the Department takes.

1           So it's something that obviously has a  
2 potential to affect not only the workload at the  
3 Department, and I'm talking specifically about taking  
4 electronic comments, but also may lead to the need for  
5 additional resources to support that effort. We simply  
6 don't know yet until we begin to get into this uncharted  
7 waters a little bit.

8           And I think fundamentally the director also  
9 pointed out that there's an important distinction between  
10 taking comments by e-mail, as opposed to providing the  
11 opportunity for the public to provide comments through an  
12 electronic format. And I think he articulated some of  
13 the issues with taking e-mail comments and why that's not  
14 the direction that we would recommend going down.

15           So, after our last meeting before the board, we  
16 certainly carried back the board's interest and concerns  
17 that we probably were not moving quickly enough in  
18 looking at opportunities for electronic comment delivery,  
19 despite the fact that it was something that was on our  
20 radar screen, and we had looked at it. We had been  
21 looking at it. But I think the prompt that we received  
22 from the board was a timely one, and I think we're  
23 responding accordingly.

24           So, that said and without further delay, we  
25 have developed an overview presentation that Gina

1 Thompson and Bill have developed regarding essentially  
2 the work that we've done in the interim to explore this  
3 issue and provide the board with an update on where we're  
4 at and our thoughts on how we're going to proceed.

5           Finally, I think it's our intent to try and  
6 initiate a test of this electronic comment delivery  
7 mechanism before the -- before the board at its next  
8 advisory board meeting relating to a rule-making package  
9 that I think Solid and Hazardous Waste is going to be  
10 presenting before the board. This will give us an  
11 opportunity to at least see how well the system works and  
12 also provide an opportunity to see if there's any issues  
13 and problems that arise. I think the director wants to  
14 make sure that we get this thing right and focus  
15 primarily on using it for rule development initially, and  
16 that will help better inform the decision as to how we  
17 would proceed with electronic delivery of comments on  
18 permits and things like that, other actions before the  
19 Department.

20           So, with that, I'll let Gina and Bill kind of  
21 explain where we're at.

22           MS. THOMPSON: Thank you, Madam Chair.  
23 Bill and I have been researching the use of electronic  
24 means for commenting with other state agencies. And the  
25 other agencies within the state have developed forms

1 using the Google platform Google Forms. One such agency  
2 in particular is the Office of the Game and Fish, and  
3 they take their public comments concerning guidance and  
4 rule-making proposals through their websites, where an  
5 interested citizen, an interested party, can visit the  
6 Game and Fish website, fill in the required information,  
7 such as their name, and manually type in a comment, hit a  
8 submit button, and the Game and Fish receives the comment  
9 electronically.

10 We developed a test of a similar form using  
11 their -- using their form as a template, and we  
12 distributed it to our rule-making team back at DEQ. The  
13 form included a required field such as first and last  
14 name, what is your address, and we made the manual  
15 comment box a required field, as well. These required  
16 fields are helpful because the commenter can't  
17 accidentally submit a blank comment if these are marked  
18 "required." They have to fill it out entirely and then  
19 hit "submit" or it doesn't really let them go any  
20 further. So it prevents a lot of weird confusion on  
21 their part and ours.

22 So we conducted a test with our rule-making  
23 team and had them send us feedback. And we noticed a  
24 number of limitations that DEQ would be interested in  
25 resolving that other agencies might not have the same

1 level of need.

2 MR. TILLMAN: One of the reasons why I  
3 guess the in-depth and across-the-board look at it is  
4 Director Parfitt wanted to make sure we had basically a  
5 single mechanism that can be used agency-wide. And there  
6 are certain groups, namely Air Quality and also the  
7 watershed group, their comments to proposed rule-making  
8 and policies and things like that get fairly detailed,  
9 and the comments involve charts and graphs and other  
10 tables and things like that. So there's some limitations  
11 to the basic forms and things that we noticed that the  
12 Game and Fish had used that we would need to incorporate  
13 again across our entire agency. So now we're looking at  
14 a means to address those needs.

15 And there's been two or three different  
16 options, some that cost money, some that didn't.  
17 Obviously we're looking for the least cost because we  
18 don't necessarily have the funding, at least presently,  
19 to put towards the additional resources. So, again,  
20 that's something that is necessary for other agencies,  
21 not necessarily for our agency. Again, our comments tend  
22 to be typically just text and not involve --

23 (Phone ringing.)

24 MR. TILLMAN: As I was saying, our  
25 comments tend to generally involve text, as opposed to

1 additional attachments. So, to make it more complete and  
2 robust, we're still doing some further research to make  
3 sure that, can we have something that can be used across  
4 the agency with slight variations, but the basic template  
5 would be the same? So, again, we're doing a little bit  
6 further research on that.

7 Madam Chair?

8 CHAIRMAN BEDESSEM: It seems like you  
9 would want to have an avenue where you can upload  
10 documents. Because if you've got a municipality, for  
11 example, where they want to have an official submittal  
12 where you know you have the appropriate representative  
13 and you have whatever attachments, because they've been  
14 approved, so they can upload the document, and it seems  
15 like that is something that every one of your divisions  
16 would need, regardless of whether there's -- it's a PDF  
17 and whether it has graphs or tables or whatever.

18 MR. TILLMAN: And like I said, our  
19 experience, or at least my experience, I haven't seen  
20 that from Water Quality. But again, from the watershed  
21 group, I know Air Quality, that is definitely a necessity  
22 that they need to have as a part of the electronic  
23 submittal or responses. So, again, we're trying to make  
24 sure that what we provide to Director Parfitt is  
25 something that's agency-wide useful and that, again,

1 costs the least amount of money and least amount of  
2 resources.

3 MS. THOMPSON: So our current status on  
4 this particular project is that we're working out details  
5 with ETS to determine if we can easily address the upload  
6 concern or if we are going to need to draft a work order  
7 and fund said work order. And we'll be continuing  
8 consultation with them and will probably have additional  
9 information for you when you're ready to launch this.

10 One of the -- one of the concerns with taking  
11 e-mail comments was the additional workload that it would  
12 potentially mean for us. And there were security  
13 concerns, as well, things such as our robust spam filter  
14 at the State preventing potential comments from getting  
15 through. And then on our side of it, we were very  
16 concerned that we would encounter a lot of spam, that it  
17 wouldn't be meaningful real comments but that it would be  
18 some sort of robotic spam launching.

19 And the direction that we seem to be headed is  
20 definitely a tie-in with Google Forms. The State  
21 currently operates on the Google platform. And we have  
22 forms easily available to us. So it doesn't require --  
23 like the basic idea is that if we use that, we don't have  
24 to purchase additional software or licensing.

25 And there are a number of workflow perks to

1 using Google Forms, such as, when a commenter enters a  
2 comment or does -- you know, potentially down the road  
3 doesn't upload, Google translates all of that information  
4 into an Excel spreadsheet, a master spreadsheet, which  
5 would eliminate a lot of data entry on the part of DEQ  
6 staff, and it would also allow us to do some additional  
7 analysis. Especially for comment periods where we  
8 received a lot of comments, it would allow a little bit  
9 better analysis than working in a traditional paper/pen  
10 way allows.

11 So we're excited to pursue that. And again, we  
12 are continuing our competition with ETS. Because once we  
13 get these public comment issues resolved, we would like  
14 to potentially translate this form idea to other business  
15 that DEQ conducts that the function is the same but it  
16 might apply to a different program. So we're just --  
17 we're excited that this is heading in the direction that  
18 it is. And it looks like it will be ready fairly soon  
19 and fairly smoothly.

20 MR. FREDERICK: I think optically what  
21 this would ultimately look like is the public would have  
22 an opportunity to go directly to our website. They would  
23 then see a link that would allow them to go directly to  
24 the comment form. We envision that, in all likelihood,  
25 it would be multiple opportunities to comment on



1 different rule-making activities or permits at the same  
2 time. So somehow we're going to have to distinguish and  
3 make sure that the comment on a particular rule or permit  
4 is directed to the appropriate form and so forth.

5 I think we also envision that the public  
6 notices that we post on our website and that we send out  
7 electronically to our mailing list would ideally contain  
8 a link that you could essentially click on, and then that  
9 would direct you right to either the website or the form  
10 or something like that. So we want to try and make this  
11 as efficient as possible. We're kind of excited about  
12 it. We're a little nervous about it, I guess, in terms  
13 of the change to the way we do business.

14 The spreadsheet opportunity that Gina was  
15 referring to provides search capabilities. I see some  
16 benefit in that in terms of trying to identify key issues  
17 or comments that are presented in the spreadsheet and for  
18 us to be able to more easily tease those out. I think  
19 it's also going to make it easier, perhaps, for us to  
20 develop a response to comments, because historically the  
21 approach had been that we have to enter all that response  
22 into a Word document or whatever, and now we should be  
23 able to cut and paste a lot of that. So I think there's  
24 some positives for us to gain from this, as well.

25 CHAIRMAN BEDESSEM: Before the board

1 comments on anything, is there -- are there any comments  
2 from the public regarding this electronic comment issue?

3 Come forward to the microphone.

4 MS. TAYLOR: Madam Chair, do you mind if I  
5 approach the table?

6 CHAIRMAN BEDESSEM: Yeah, that's fine.  
7 And announce your name and who you represent, please.

8 MS. TAYLOR: So my name is Megan Taylor,  
9 and I represent the Powder River Basin Resource Council.  
10 And to begin, I just want to thank the Water and Waste  
11 Advisory Board and the DEQ for taking on this important  
12 issue. We understand that there are hurdles that need to  
13 be overcome, but I can let the board know that the Powder  
14 River Basin Resource Council has filed a rule-making  
15 petition with the Environmental Quality Council to kind  
16 of spur the agency to look into electronic comments. We  
17 really want this conversation to happen in a public  
18 forum. We want the public to be fully engaged with this  
19 process, especially as the conversation turns towards  
20 electronic kind of options available to the DEQ. We also  
21 want other divisions of the agency to be involved in this  
22 conversation under the public eye.

23 So we noticed that the DEQ is favoring a  
24 Web-based form. And we just want to raise concerns we  
25 found with Web-based forms. Many Wyoming residents live

1 in rural areas that have slow Internet speeds. And also,  
2 some of these Web-based forms require software to be  
3 downloaded in order for that form to function properly.  
4 So this can be a barrier to public participation. And I  
5 just want to make sure that these public access concerns  
6 are addressed if the DEQ does decide to go with the  
7 Web-based form.

8 Also, we're happy to hear that you've actually  
9 considered the uploading of documents. That's very  
10 important to our organization and to our members.  
11 Sometimes their rule-makings are projects that require us  
12 to submit many exhibits. And we just want to make sure  
13 that the form has adequate space for us to submit those  
14 uploaded documents.

15 Also, we ask the agency to have the form where  
16 you can actually copy and paste into the text on the  
17 form, rather than typing into the form directly, just  
18 because it can be easier to format and spell-check and  
19 draft your comment in a word-processing program and then  
20 copy it over, rather than have to e-mail them separately  
21 and worry about things going wrong.

22 And we just had one question. We noticed in  
23 the letter DEQ sent to the Water and Waste Advisory Board  
24 that it was found to be cost-prohibitive for the agency  
25 to institute e-mail comments because you have to set up a

1 separate e-mail account for each project deserving of  
2 public comment. And we just wanted to know if the agency  
3 considered just having a separate e-mail account for each  
4 division, and if that was considered, why that option was  
5 discarded. That might help save on cost.

6 Thank you so much for allowing us to comment.

7 CHAIRMAN BEDESSEM: Thank you very much.

8 Anyone else?

9 (No response.)

10 CHAIRMAN BEDESSEM: Okay. Administrator  
11 Frederick, did you want to say anything with regard to  
12 those items other than --

13 MR. FREDERICK: The question that was  
14 asked on separate e-mail accounts, do we have anything to  
15 respond to that?

16 Madam Chair, if you wish further clarification  
17 on the concern that the previous speaker mentioned with  
18 respect to the need for more than one e-mail account for  
19 each division, that's something I would have to go back  
20 and investigate a little bit further. I can't provide a  
21 response to that right now.

22 CHAIRMAN BEDESSEM: I just wanted to  
23 mention that Megan listed a number of things that she  
24 thought were important to her constituents as far as  
25 options within the form. I belong to a number of groups

1 where I need to submit -- fill out forms and submit the  
2 forms. And one problem I always run into is the  
3 inability to print the form before I send it. And then I  
4 hit the "send" button. And if I don't get an e-mail  
5 response saying it's been received or whatever, I don't  
6 really know that they got it and what they got, and so to  
7 give the commenter the option to at least print the form  
8 so they know what they submitted on what date and that it  
9 had been received would be appreciated.

10 MR. TILLMAN: Madam Chair, one of the  
11 things with Google Forms that is -- one of the things  
12 that's good to have about that is that when someone from  
13 the public submits a comment, they will get a, "Thank you  
14 for your comment," so they know that it has been  
15 submitted. And Google Forms also has a way to track any  
16 submission. Whether it was submitted with a comment or  
17 not, we have a way of tracking that. So none of them get  
18 lost. So there is a way for the public to know that  
19 their comment was received. And we can demonstrate and  
20 we can show a listing of all the comments that have been  
21 received. So, again, if there's any discrepancy from the  
22 public saying, "Well, I sent it, and you guys didn't get  
23 it or didn't do anything," we can very easily document  
24 that with the Google Forms.

25 CHAIRMAN BEDESSEM: But also the ability

1 to print, as well, so that they know what it is that they  
2 sent.

3 MS. THOMPSON: Right. And I believe that  
4 since we are using -- our direction is to go towards  
5 using Google Forms as a browser-based form, that would  
6 allow you to print it within your browser. So you would  
7 be able to print the page that you're looking at using  
8 your browser menu. So that would be -- that would allow  
9 you to do that.

10 CHAIRMAN BEDESSEM: I just know that  
11 sometimes when there's a box and you scroll it in the  
12 box, if you're printing, you end up with a print screen.  
13 You end up with a quarter of the box. You don't actually  
14 know what it is that you submitted. So that's just a  
15 concern. Those are just minor details. I am just  
16 pleased that, rather than putting off any kind of  
17 electronic submission for years, that there is an effort  
18 being made toward getting this done. And we always will  
19 need to be able to receive paper comments because there  
20 are still lots of people who aren't -- you know, have  
21 slow Internet speed who are not on computers who have --  
22 should have the ability to provide comments just as  
23 everyone does that has a computer. So there should  
24 always be all those avenues.

25 Any comments from board members? Klaus,

1 Calvin, Lorie?

2 Lorie, do you have any comments?

3 MR. HANSON: No. She's shaking her head.

4 I can see her.

5 CHAIRMAN BEDESSEM: Okay. You can see

6 her? Okay. It's hard to see body language on that.

7 Thank you very much. Very pleased to have this  
8 response as something that we can move forward. And  
9 Mr. Applegate let us know via e-mail that he was okay  
10 with this process. And so we look forward to hearing  
11 updates in the future on how that's going and seeing the  
12 first test with, I don't know, perhaps Chapter 2  
13 revisions. I don't know. Depends on what Solid and  
14 Hazardous Waste --

15 MR. TILLMAN: Yeah. Madam Chair, I think  
16 they have a rule coming up shortly that we have an  
17 opportunity to test with that.

18 CHAIRMAN BEDESSEM: Sounds good. Thank  
19 you very much.

20 (Hearing proceedings concluded

21 12:16 p.m., May 7, 2015.)

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C E R T I F I C A T E

I, RANDY A. HATLESTAD, a Registered Merit Reporter, do hereby certify that I reported by machine shorthand the proceedings contained herein constituting a full, true and correct transcript.

Dated this 26th day of May, 2015.

  
  
RANDY A. HATLESTAD  
Registered Merit Reporter